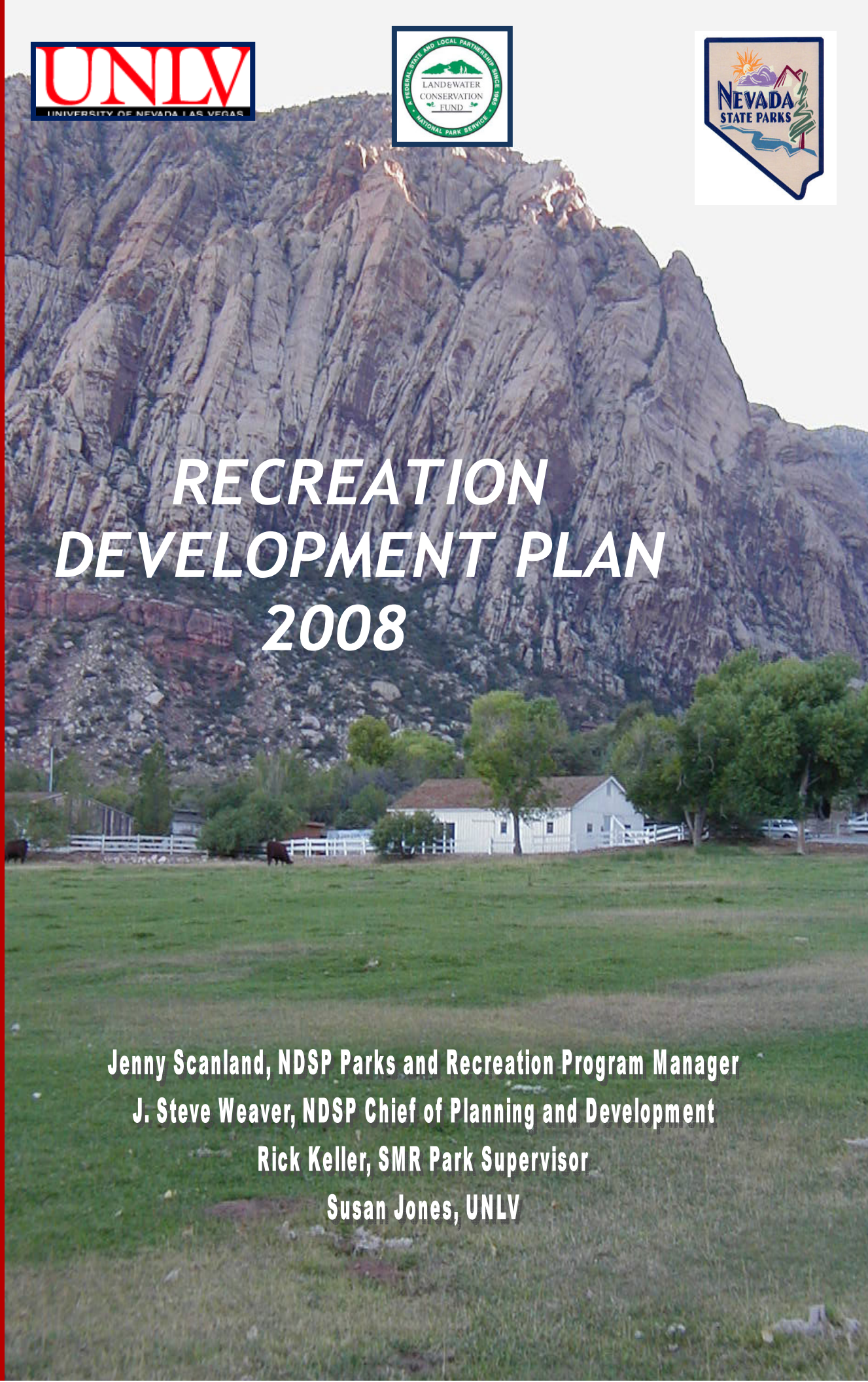
SPRING MOUNTAIN RANCH STATE PARK



RECREATION DEVELOPMENT PLAN 2008

Jenny Scanland, NDSP Parks and Recreation Program Manager

J. Steve Weaver, NDSP Chief of Planning and Development

Rick Keller, SMR Park Supervisor

Susan Jones, UNLV

TABLE OF CONTENTS ……2

I. INTRODUCTION

Spring Mt. Ranch State Park serves as a year-round recreational facility. The ranch itself sites on 520 acres within the Red Rock National Conservation Area and has hosted a string of owners including Chester Lauck of the comedy team "Lum & Abner", German actress Vera Krupp, and billionaire industrialist Howard Hughes. In addition to serving as a historical site, the ranch also provides for recreational opportunities such as hiking, picnicking, nature studying, and group activities. A large stage is located on the east end of the property where plays and concerts are held during the summer.

A. PURPOSE OF PLAN

1. Purpose

The purpose of this document is to update the 1988 Development Plan for Spring Mt. Ranch State Park. The plan, which is over 18 years old, no longer addresses the needs and circumstances of the park and surrounding region.

The plan begins with an introduction to the document and then covers the description, location and park setting along with the park's history in Chapter 1; regional influences which directly and indirectly affect the park in Chapter 2; the park's natural and cultural resources, including existing facilities and description of uses in Chapter 3; the resulting development plan in Chapter 4. The basic four plan development stages are: 1) data inventory and analysis, 2) public participation, 3) alternative generation, and 4) recommended plan development.

2. Planning Process

The current Spring Mt. Ranch planning review process has involved nearly one year of work in 2007, by the Nevada Division of State Parks (NDSP), University of Nevada, Las Vegas (UNLV), partnering agencies, and the public. Funding was provided by the Nevada Division of State Parks and from the Land and Water Conservation Fund administered by the National Park Service.

a. Past Plans

Past plans addressing visual integrity and environmental sensitivity, as well as trails, picnic grounds and other issues were reviewed and used in identifying preliminary issues to be addressed during the planning effort. These plans included:

- Red Rock Master Plan (Royston, Hanamoto, Beck, & Abey, 1976)

- Spring Mt. Ranch State Park Master Plan (Design Concepts West, 1988)
- Nevada's Statewide Comprehensive Outdoor Recreation Plan (SCORP) – Assessment and Policy Plan (Nevada Division of State Parks Planning and Development Section, 2003)
- Nevada State Recreational Trails Plan (Nevada Division of State Parks Planning and Development Section, 2005)

b. Process

Data Inventory and Analysis - Staff collected site and regional area information for Spring Mt. Ranch State Park in the following categories: land use trends (ownership, land use, zoning, transportation, trails and utilities), natural resources (topography, geology, hydrology, vegetation, soils, slope, wildlife, climate, air quality and perceptual attributes), and cultural resources (existing facilities, archaeological and historical resources).

This information was then analyzed to identify development limitations and site opportunities. User survey data from the past 5 years were analyzed and graphics were developed to present findings to the public at the first public workshop held July 25, 2007.

Public Participation – Among the methods used to be responsive to existing and future needs were: 1) Survey of users, 2) Public meetings, 3) Continued liaison with community groups by staff, and 4) Monitoring of trends and actual park use.

The 1988 Plan Goals and Issues were presented, as well as those brought up through surveys, staff and partners prior to the first public meeting. Maps, pictures, site inventory information, current demographics and trends, site analysis information and user survey results were presented to a public workshop on July 25, 2007.

The public was asked to provide input on issues, goals and objectives. They were also asked to put forth opportunities and ideas that the staff could use in development of alternatives.

Based on resultant information from the public meetings, management three alternatives were developed (Appendices 4.1 – 4.3 Alternative Maps). These alternatives were then presented for public comment at a second public meeting on November 8, 2007 and a third public meeting on January 16, 2008.

c. Participants

Participants in the development of the first phase of data inventory and analysis and assistance with the first public meeting include but are not limited to:

- Nevada Division of State Parks
- University of Nevada, Las Vegas Landscape Architecture and Planning Research Office
- Nevada Natural Heritage Program, Nevada Department of Conservation and Natural Resources
- USFWS
- Nevada Department of Wildlife

B. PARK SETTING

1. Description and Location

a. Description of Park and Location

Spring Mt. Ranch State Park is located about 15 miles west of Las Vegas, Nevada (Figure 1.1 Park Location and Figure 1.2 Park Vicinity Map). Red Rock Canyon lies in Clark County at the southern extension of the Spring Mts. Spring Mt. Ranch encompasses 528 acres, consisting of an in holding within the Red Rock Canyon National Conservation Area.

Developed facilities at the Ranch include family and group picnic areas, a visitor center, a special events pavilion with a stage and light-ing/concession booth, guided historic and natural scenic tours, and short day-hiking trails.

b. Physical Setting of the Area

Nestled in the Red Rock Canyon, the rolling topography and the Blue Diamond Hills physically separate this area from the Las Vegas Valley. The "Red Rock" part of the name Red Rock Canyon originates from the brilliant red sandstone formations that rise dramatically from the valley floor. Red Rock Valley, long and rolling, is visually enclosed by the sandstone cliffs of the Spring Mountains to the west, Calico Hills to the north, and Blue Diamond Hills to the east. To the south, Cottonwood Pass visually separates Red Rock and Cottonwood valleys. This enclosure provides a sense of tranquility and remoteness to an area very close to the booming city of Las Vegas (Design Concepts West, 1988).

NEVADA DIVISION OF STATE PARKS

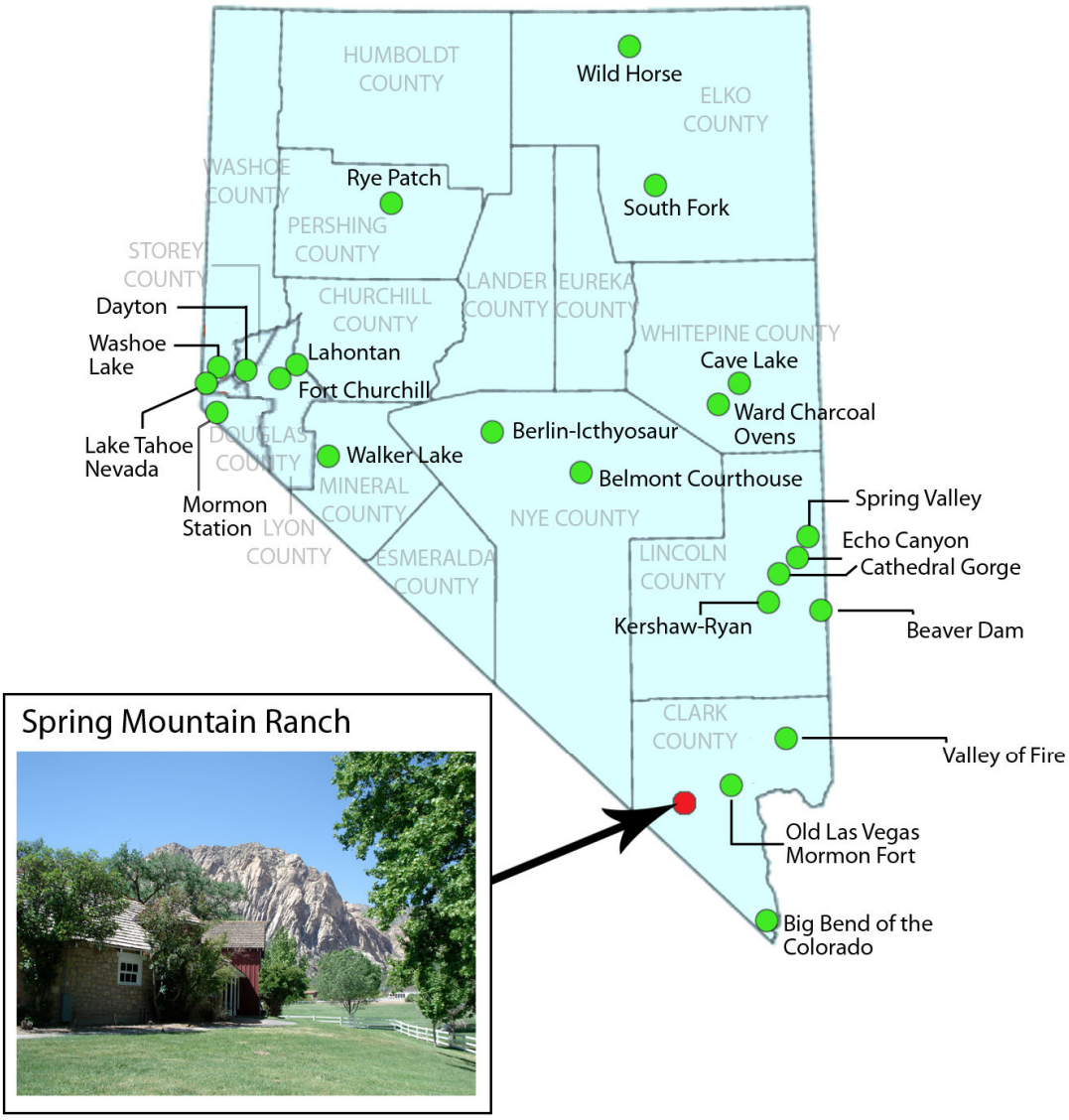


Figure 1.1 Nevada State Park System, Park Location

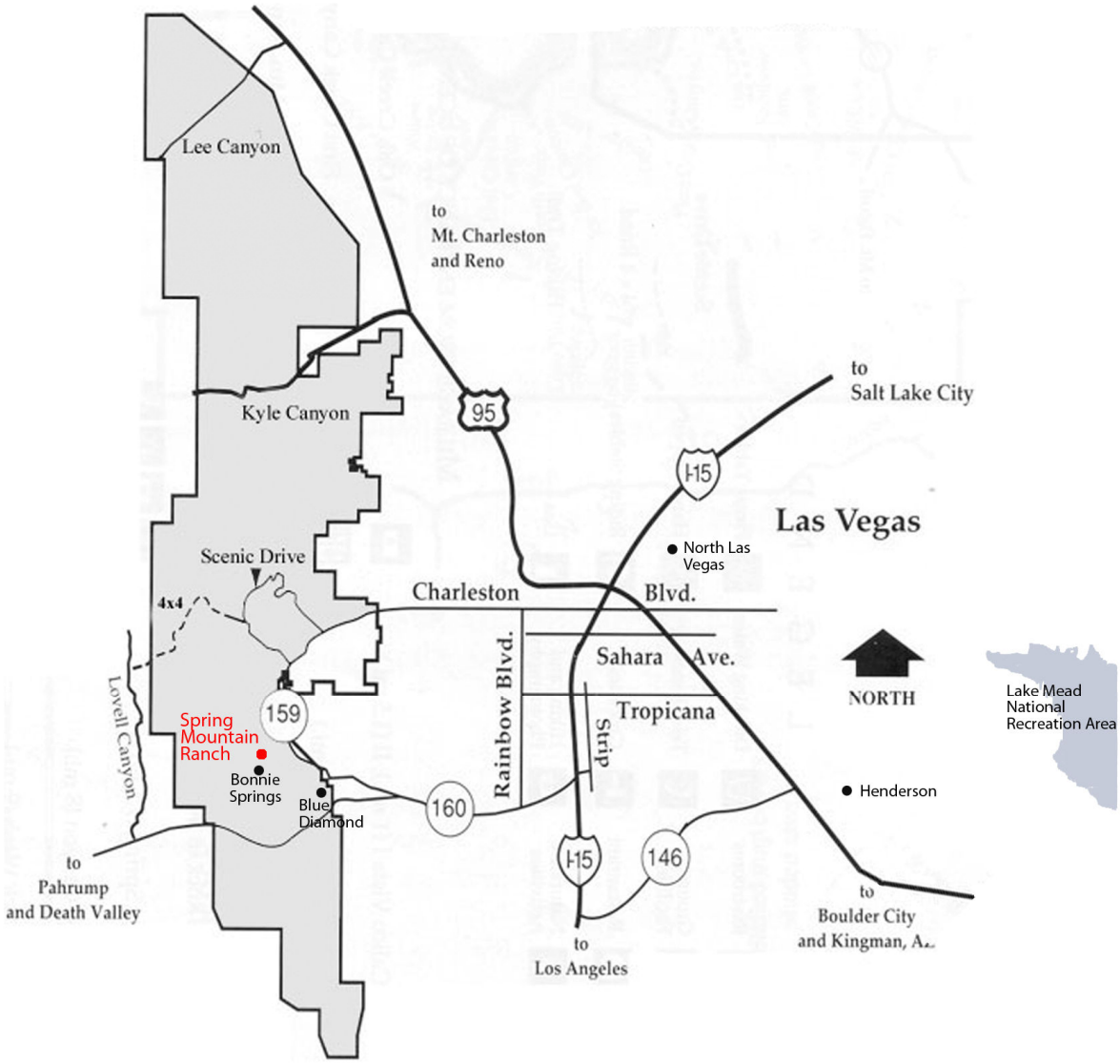


Figure 1.2 Park Vicinity Map

c. Adjacent Property Ownership

The federally owned Red Rock Canyon National Conservation Area completely surrounds the Spring Mt. Ranch State Park. To the north, south, and west, all land directly adjacent to the State Park is public. Nearby private lands include: residential development in the unincorporated village of Blue Diamond, Bonnie Springs to the south, and the Calico Hills to the northeast.

2. Current Goals and Objectives

a. Legislated Goals and Objectives

The Nevada Division of State Parks (Division) is one of many agencies within the Department of Conservation and Natural Resources. The Division is directed by legislative intent to: "acquire, protect, develop and interpret a well balanced system of areas of outstanding scenic, recreational, scientific and historical importance for the inspiration, use and enjoyment of the People of the State of Nevada and that such areas shall be held in trust as irreplaceable portions of Nevada's natural and historic heritage" (NRS 407.013)

b. Policies Related to Spring Mt. Ranch State Park

Management of all of Nevada's State Parks must follow goals and objectives as set forth in the Division's policy manual. The primary goals of the 1988 Spring Mt. Ranch Development Plan (NDSP 1988) were as follows:

- Balance statewide recreational needs
- Protect and interpret the unique natural and historical resources
- Increase visitor enjoyment and understanding of the natural history resources of the park
- Plan for increased visitation needs to be planned for and manage to avoid negative visitor impacts.
- Provide a retreat from fast pace of city
- Showcase nationally prominent and environmentally sensitive Red Rock Canyon
- Increases hiking, picnicking, and interpretive opportunities
- Recommends encouraging visitors to participate in activities that strengthen their understanding and enjoyment of this unique place

3. Major Current Issues

a. SCORP Identified Issues

Nevada's 2003 Statewide Comprehensive Outdoor Recreation Plan (SCORP) identifies major concerns shared by most Nevadans relating to outdoor recreation.

The SCORP identified eight General Category Issues, all of which directly relate to the Spring Mt. Ranch State Park in some way. They will be considered in development of the plan.

Issue # 1 - Public Access to Public Lands: There is a growing need to protect, maintain, and increase public access to public lands for the greatest diversity of outdoor recreational users.

Issue #2 - Funding: Existing levels of outdoor recreation funding are inadequate to meet the recreation needs of Nevada.

Issue # 3 - Recreational Trails: There is a growing need to provide recreational trails and pathways throughout the state, in both urban and rural areas.

Issue # 4 - Protection of Nevada's Natural, Cultural, and Scenic Resources: Protection of natural resources needs to be put in balance with users. Create opportunities for the users to participate in the protection, i.e., as site stewards—mandate that a majority of fees paid in a recreation area stay in that area for improvements and maintenance. Citizens acknowledge this as an investment and a way to participate in the conservation of these resources.

Issue # 5 - Water Resources Are Vital Components of Nevada's Recreation Base: Water resources must be protected to maintain the needed quantity, quality, and accessibility for public recreation. Recreation and wildlife depend on the limited water resources in Nevada.

Issue # 6 - Interpretation and Education: Encourage, fund, and provide environmental, cultural, and heritage interpretation and educational programs and opportunities, especially outdoor opportunities, throughout Nevada.

Issue # 7 - Nevada's Growing Population Increases Demand: Nevada's growing population is placing an increasing demand on recreation resources and recreation suppliers at all levels, statewide. New resources need to be identified, acquired, funded, and developed.

Issue # 8 - Coordination and Cooperation: Coordination and cooperation between public and private recreation providers at all levels is very important. More true support from private citizens, user groups, and governmental entities (local, state, and federal), are important partnerships to pursue.

b) User Conflicts/Visitor Impacts

- Noise conflicts arising between special events and general park visitors
- Trash and vandalism

c) Public Identified Issues

The Nevada Division of State Parks hosted a public workshop on July 25, 2007, in Las Vegas. The meeting began with a presentation that reviewed issues and goals from the 1988 Plan. Then NDSP invited participants to respond to several questions:

- Have the 1988 issues been addressed?
- Are they still valid issues and objectives?
- What are your ideas for addressing them today?
- Are there any new issues/objectives?
- What are your ideas for addressing them?
- Do you have any new ideas/opportunities for the Park?

Staff captured ideas, comments and concerns during the interactive question-and-answer session at the meeting, accepted written comments, and invited participants to submit comments by email or regular mail. NDSP received over 140 comments during the two-week comment period.

In 1988 the public felt that enjoyment and interpretation of the visual, natural and historic values of the Park should be its primary focus. Activities such as cultural events, group picnicking and camping should be secondary in nature. They also wanted an expanded trail system that would allow exterior inspection and detailed information for visitors not on a guided tour.

In 2007 the public felt that NDSP had made significant progress in addressing the 1988 issues. However, they reflected similar viewpoints and concerns covering five broad aspects of Spring Mt. Ranch resources: 1) historic, natural and visual resources, including their restoration, rehabilitation, protection, and accessibility; 2) interpretation of Park resources and values, including environmental and historical education;

3) trails for pedestrian, equestrian and vehicular use; 4) picnicking, group use areas, special events, and parking; and 5) management and operations.

The general feeling, expressed by one commenter, is that whatever is planned should stay true to the ranch. Most commenters felt that the main emphasis should remain on the natural and human history of the ranch, while acknowledging the appeal and importance of cultural events and low-impact recreational uses. Commenters felt that if the State Park loses this focus, it will lose the ranch's history.

Historic, Natural and Visual Resource Issues and Suggestions

Many commenters expressed concerns about NDSP plans for restoring, using and protecting historic resources at the ranch. Some believe that the ranch should be preserved in the same form as at the time of its acquisition in the 1970s. Others want to see the buildings restored and furnished with period furnishings. Some favor adaptive reuse of buildings and sites, such as using the ranch house as the visitor center. However, some believe that using the ranch house as a visitor center is incompatible with its historic use, and that a new visitor center should be built near the entrance to the Park. They want to see the ranch house restored to its historic condition. Others believe that it should remain a visitor center because having staff and volunteers in the house every day ensures that it is constantly maintained, cleaned and repaired.

A suggestion to build an adult environmental education camp over the Bar Nothing Boys' Camp foundation met disagreement from those who believe such as use is incompatible with the site's archaeological and historic value. However, many commenters expressed agreement that NDSP should conduct archaeological surveys before historic sites are disturbed or well-intentioned people begin removing artifacts that look like "trash".

Commenters generally agreed that NDSP should look into restoring the historic orchard, suggesting that the University of Nevada Master Gardeners could help identify, procure and maintain heirloom fruit trees as a resource for canning and other food-related demonstrations.

Meeting attendees also suggested that livestock, such a couple of head of cattle, might be reintroduced into the pastures, either full time or for special events, if human and animal safety and welfare can be assured.

Many commenters expressed concerns about protecting historic resources from theft and vandalism. Specific suggestions included modifying the buildings so that people can look in but not enter them, as at the historic buildings displayed at the Clark County Heritage Museum.

Other specific comments and suggestions:

- Erect a more respectful and appropriate fence around the Wilson Cemetery.
- Display an historic marker in the Park indicating that the entire ranch is listed on the National Register of Historic Places.

Interpretation and Education Issues and Suggestions

Suggestions addressed the range of historic resources used in the interpretive program and tours, signage (interpretive, educational, and directional), and the need for signs and interpretation in languages other than English.

Commenters suggested that NDSP integrate a broader range of historic and natural resources into its tours and interpretive programs. Specifically they mentioned the bunkhouses, the springhouse, the previously mentioned orchard and livestock.

Signage generated much discussion. Most commenters thought that the Park needs more interpretive programming, including additional signs. They suggested that signs, as well as brochures and docents, should be bilingual (Spanish and English). Some commenters recommended using universal symbols on directional signs, rather than using just Spanish and English, to aid all international visitors. NDSP also noted that the Park needs signage in Braille for full compliance with the Americans with Disabilities Act. Some commenters observed that many of the older signs have faded and need to be replaced with more advanced weather-resistant materials. Meeting attendees also wanted to know whether new signs will be placed in areas of heaviest usage or whether they will distributed along the trails.

Specific comments and suggestions:

- Place signs in multiple languages around the Park increase environmental awareness.
- Erect new professional-looking kiosks at the entrance booth, the picnic area and the handicap parking area.
- Interpret the Triassic-Jurassic boundary that outcrops at the base of the Wilson Cliffs.
- Provide more State support for recruiting and retaining docents.

Trails Issues and Suggestions

Commenter's identified two main issues – connectivity with trails outside the Park and trail safety.

The wash in the Park was a spring-fed stream with ties to the Old Spanish National Historic Trail. The Trail should be marked in coordination with partners outside the park like the local chapter of the Old Spanish Trail association.

Commenters also asked NDSP to create and equestrian trail through the Park that connects with those on surrounding BLM lands.

Commenters identified the Overlook Trail (also referred to as the Plant Trail) as run down and dangerous, especially for older visitors. They also agreed with the NDSP proposal for a bridge over the wash along the Ash Trail and its efforts to make trails more universally accessible.

Finally, NDSP needs to publish an updated trail map.

Day and Overnight Use Issues and Suggestions

Issues and suggestions related to picnicking, group-use, camping, special events, and parking introduce questions concerning conflicts among different uses and users, as well as some environmental considerations.

The proposed group-use area generated the most discussion. NDSP needs to understand the impacts that the proposed group-use area will have on all of the Park's resources (e.g., walking trails, parking, picnic sites, rest rooms). Commenters want to be sure that impacts are both understood and contained, even though the proposed site is already heavily disturbed. NDSP also needs to look at potential interference between the proposed group-use area and activities at the stage and potential restrictions on its use.

Opinions differed on whether a campground should be constructed. Some commenters supported a small, primitive campground for organized groups, like the Boy Scouts. Others felt that the Park is too small to support camping, which is available on surrounding public lands.

Commenters differed on whether or not the parking areas should be paved. Paving reduces dust, but adds heat. Additional heat is not desirable because many visitors come to the Park to escape the heat. Paving is also more visible from the highway and would increase the Park's impact on visual resources in the Red Rock area. Paving also increases runoff and might contribute to local flooding.

Management and Operational Issues and Suggestions

These issues and suggestions may or may not impact the physical development of the Park. They addressed issues related to Park visitation, marketing, fee collection, and ongoing maintenance.

A major issue revolves around visitation. Some commenters offered suggestions for increasing Park attendance. Others questioned whether we wanted more than 200,000 visitors per year. Much of the discussion centered on whether to target awareness programs on locals or out-of-town visitors, as the answer affects facilities, programming and advertising.

Specific suggestions or comments for increasing visitation:

- Link an active weather station to local news stations so that Spring Mt. Ranch can be mentioned in weather reports to increase local awareness.
- Staff the entrance booth all the time to increase fee collections and obtain an accurate visitor count.
- Study visitation patterns to provide input to understand when and how visitors use the Park.
- Advertise the Park in Spanish-language media that serve the local Hispanic community.
- Contact television channels 2 and 4 for more exposure for the Park and to advertise the need for docents.

Several commenters mentioned that trash was an issue; others felt that Spring Mt. Ranch is one of the cleanest parks in the system and that trash is not an issue. Specific suggestions:

- Use areas may need more trash receptacles that are emptied more often.
- Hand out trash bags to each vehicle that enters the Park and then refund part of the fee when the bag is returned full.
- Ask hiking groups to help with periodic cleanups.
- Use prisoners and those sentenced to community service to help clean the Park.

d) Environmental Considerations

- Endangered and at risk plant and animal species
- Invasive species of non-native plants
- Wildfire

e) SMR Resource Management Plan (2002) policies and objectives

- "To preserve the historical areas and values of the park for present and future use"
- "To preserve the biotic relationships within and outside the park boundaries"
- "To provide for recreational needs of the visitors with minimal impact on historical and environmental values"
- "To provide a learning experience for greater understanding and enjoyment by the park visitor"
- "To expand and enhance the historical aspects of the visitor experience at SMR and surrounding area. Exemplify and illustrate natural and historical values directly relating to the Ranch by means of the visitor center (main ranch house) and its displays, historic tours, interpretive and living history programs, and program aids."

C. Park History

1. History of the Area

Humans have has occupied the region for at least 10,000 years and perhaps longer. Gypsum Cave and Tule Springs, both near Las Vegas, provide evidence of a big- game hunting culture in the area at about 9,000 B.C.

About 2,000 years ago, a hunting and gathering culture lived in the region. It was related to the general basket-maker culture spread over much of the Southwest during this period. The culture acquired the ability to grow maize, beans, and squash, and over time settled down to a sedentary way of life until dispersed in the late 1100's. The people of this culture were centered on the lower Virgin and Muddy Rivers, living at first in pit houses and later in Pueblo-style surface dwellings. Although these people were basically farmers, they also hunted game and gathered plants. One of their use areas included Red Rock Canyon, as indicated by pottery, roasting pits, campsites, and possibly pit houses.

Sometime after 700 A.D., the Southern Paiute entered the area. They were distantly related to the people of the Pueblo culture along the Virgin and Muddy Rivers. The Paiutes displayed a hunting/gathering culture and also practiced very simple agriculture. They used some of the same roasting pits and campsites as the Puebloans. They also used windbreaks of brush and caves for semi-permanent dwellings. During the winter they gathered at specific village locations for social and religious rites.

Accounts of Mojave raids into the area for plunder and slaves exist. The Spanish, Mexicans, Mormon pioneers, and mountain men followed these

intruders. These groups passed through the region on a trail over Mountain Springs Summit known as the Old Spanish Trail, and later, the Mormon Trail.

Rich archaeological sites provide us with most information about these cultures. Unfortunately, pot robbing and vandalism are serious problems at many of the archaeological sites within the region. Sites within the Red Rock Canyon area have experienced low to moderate levels of damage. Much of the vandalism and disturbance in the Red Rock Canyon area occurs at the Willow Springs, Brownstone Canyon and Sandstone Quarry sites (BLM, 1975).

The first whites in the Red Rock area included trappers and explorers. These men passed through the valley and over Mountain Springs Summit heading to the Los Angeles area. Antonio Armijo led the first caravan over this trail in 1829, establishing an alternative route for the Spanish Trail. This trail primarily served commercial mule trains hauling needed goods over the rough Spring Mountains. In 1847, the route began to be used by Mormon pioneers transporting supplies from Los Angeles to nearby Mormon colonies and Salt Lake City. Thus, the Old Spanish Trail became the Old Mormon Trail.

John C. Fremont passed along the trail during his return from California in 1844. He wrote that he hurried his trip through Nevada because of unfriendly Indians. Both Mountain Springs and Blue Diamond served as watering spots for users of the trail. During this period, Blue Diamond was known as Cottonwood Springs and Mountain Springs was sometimes known as Paiute Springs. The trail users left little evidence of their passing. Development in 1905 of the San Pedro, Los Angeles and Salt Lake City Railroad replaced the need for a trail through this area.

The first whites settled in the Red Rock area at Sandstone Ranch (now Spring Mt. Ranch) in 1867 when James Wilson filed on the property. The ranch has changed hands numerous times in its history, hosting some famous and flamboyant owners. Chet Lauck, Countess Vera Krupp, Howard Hughes, and Fletcher Jones make up this list. In 1974, the State of Nevada purchased the property for use as a State Park.

Most land in Southern Nevada stayed in the federal domain while pioneers settled more hospitable areas. This status offered no special recognition or protection. Between 1936 and 1966, the Spring Mountains including Red Rock area became part of the Desert Game Range. In 1967, first the State BLM director, followed by the Secretary of the Interior, designated 61,881.27 acres surrounding Red Rock Canyon as "Recreation Lands". This status was used to assist the public in becoming aware of tracts of land where recreation is or is expected to be a major use.

In 1968, the BLM, as managing agency, completed a master development plan for the area. This plan included a relatively high level of recreation development

and met with stiff opposition from environmental groups. Most of this plan remained unrealized and a new plan was developed (Designs Concept West, 1984). In July 1975, the Nevada State Park system hired the San Francisco landscape architecture firm of Royston, Hanamato, Beck, and Abey to work jointly with BLM to prepare a master plan for Red Rock Canyon. The facilities and visitor amenities considered in the 1976 Master Plan were similar in scope to those identified in 1968. Royston, Hanamoto, Beck, and Abey translated BLM design philosophy contained in the 1969 Recreation Management Plan into clear, concise guidelines for buildings, roads, trails, visitor use, and resource protection.

In 1990, the United States Congress changed the status of Red Rock Canyon to a National Conservation Area. This designation allowed for greater protection of resources.

Two sites within the Red Rock Canyon National Conservation Area have been placed on the National Register of Historic Places. The Brownstone Canyon area, dedicated a National Archaeological District in 1982, lies north and east of Turtlehead Mt. In 1976, the "old Sandstone Ranch", now known as Spring Mt. Ranch, was entered into the register as an historic district. The district includes the entire 528 acres of the State Park itself.

2. History of Spring Mt. Ranch

In the early 1800's, locals knew the area around Spring Mt. Ranch as the "old Williams Ranch" or the "Bill Williams Ranch". William Sherley Williams was a famous trapper, explorer and mountain man who turned to horse stealing after the decline of the fur trade. Some evidence suggests stolen horses grazed on this site, due to the availability of water. Though Bill Williams never lived on the property, someone used the property and built several structures there. One story contends that grain merchants from Ivanpah built the structures. These buildings remain at the site today. The locations of these and other historic buildings may be found in a historic district (Figure 1.3 Historic Sites Map).

In 1876 James Wilson and his partner George Anderson filed on 160 acres at the base of "Sand Mountain". Jim Wilson, an Ohio farmer, came west during the gold rush to become a miner. He enlisted in 1861 in the California Volunteers and was sent to Fort Mojave. In 1872, he owned property in the Las Vegas Springs area, which he sold before filing on the old Bill Williams Ranch. By the time the two partners moved to the ranch, two structures existed: a one room cabin and an open blacksmith shop. These were later enlarged and improved by Jim Wilson. George Anderson eventually left the ranch to enter the saloon business, leaving behind his wife Annie and their two sons, Jim and Tweed. Jim Wilson later adopted the boys and deeded the ranch to them in 1902.

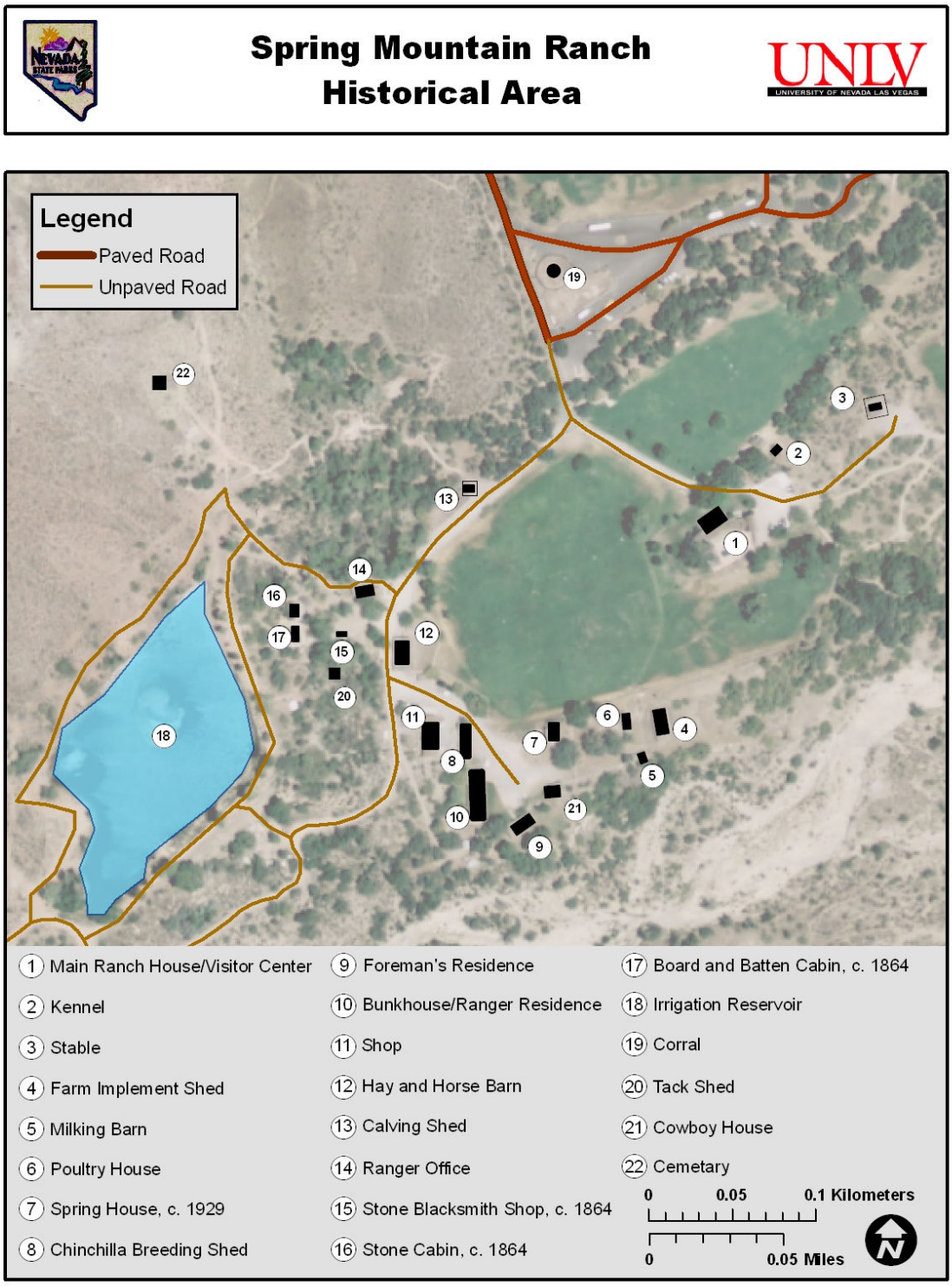


Figure 1.3 Historic Sites Map

Though cattle ranching became the primary source of income for the Wilson family, Jim Sr. continued to prospect the surrounding area for minerals, presumably until his death in 1906. Jim Jr. and Tweed remained on the ranch, continuing to run cattle. Over time they augmented their income by raising sheep, mining, and hauling ore during World War I in the Goodsprings district. Tweed married a Paiute woman, named Annie, and they had two sons, Buster and Boone. In 1919, Tweed and Annie divorced and Annie moved off the ranch with their son Boone. After falling into financial difficulties after World War I, the Wilsons were forced to mortgage the ranch for $13,523.43.

In 1929, Willard George, a successful California furrier rescued his boyhood friends and paid off this mortgage. Willard placed a covenant on the land, which allowed Jim Jr. and Tweed to remain on the property for the remainder of their lives. In addition, Buster remained on the ranch for years, working for the various owners until his death in 1972.

During his ownership, Willard George built a small home for his family, a chinchilla shed, and foreman's house. He also enlarged the orchard. His business kept him away from the ranch most of the time. Willard did stay at the ranch for two years due to health reasons. No one now knows whether he intended to raise and breed chinchillas at the ranch, or if the animals were gifts to him. In 1944, he leased the ranch to Chester Lauck, who purchased it outright four years later.

Chester Lauck, with his boyhood friend Norris Goff, created the radio characters of Lum and Abner, who ran the imaginary "Jot 'em Down Store", where customers "took what they wanted and wrote it down". Their radio show ran five nights a week until 1954. They also made several movies during the 1940's. Mr. Lauck purchased the ranch in 1948, renaming it the Bar Nothing Ranch. This area became a retreat for his family from their lifestyle in Los Angeles. He continued to run cattle, augmenting their feed with alfalfa purchased from the nearby Tule Springs Ranch, now Floyd Lamb City Park at Tule Springs. The Laucks built the main sandstone residence, now the Visitor Center. They also built a boys camp, originally for their sons. Soon paying guests expanded this operation.

In 1955, the Laucks sold the ranch to German actress Vera Krupp. Vera, born Martha Vera Wilhelmine Hossenfeldt in Meine, Germany, became a naturalized U.S. citizen in 1947. She married German industrialist Alfried Krupp, her fourth husband, in 1952. Though Mr. Krupp was not allowed to come to the United States due to his conviction of war crimes in World War II, his wife came back to the States. They divorced in 1957. At the Ranch, renamed Spring Mt. Ranch, Vera hoped to raise a strain of white-faced Herefords and Brahmas. A famous story from this period involved the theft of the Krupp Diamond. On April 10, 1959, as Vera and ranch employee Harold Brotherson ate dinner, three men

forced their way into the main house, stole the 33.6 carat blue-white diamond and fled. It was recovered six weeks later in New Jersey.

Mrs. Krupp lived at the ranch until 1964, when she moved to Bel Aire due to poor health. During her ownership, she modified the interior of the main house and added a swimming pool and bedroom with a secret passage. In addition, a guest house, various sheds and a kennel for her Great Danes were built in the service area of the ranch.

In 1967, she sold Spring Mt. Ranch to Howard Hughes for a reputed $625,000. At this time, Hughes himself was living in the Desert Inn Hotel which he acquired shortly before buying the ranch. Howard Hughes' involvement in Southern Nevada began in the 1950's with frequent visits to the area. He began investing heavily in Las Vegas real estate in 1967, eventually owning several major casino/hotels, vast tracts of undeveloped land surrounding the city, and over 700 mining claims in the area.

Howard Hughes' visits to the Ranch are vague. It is unknown whether he was or was not there before or during his ownership; however, several personal interviews put him at the Ranch on more than one occasion when he owned it. The ranch was mainly used by Hughes' employees, particularly Robert Maheu, his right-hand man. The property went into caretaker status in 1970, and was sold in 1972 to business partners Fletcher Jones and William Murphy.

Fletcher Jones and William Murphy purchased the 528 acres for close to $1.5 million. Partners in many land development deals, the two wanted to build a large equestrian - oriented residential neighborhood which could support up to 2,000 people. A public outcry encouraged the Clark County Planning Commission to stall their application for rezoning. When stiff opposition to the plans formed, Jones announced his intention to auction the property (Design Concepts West, 1988).

The State of Nevada had long shown an interest in the Red Rock area and this property attracted immediate attention. As early as 1969, the State Legislature tried to persuade the U.S. Congress to turn over management of Red Rock Canyon to State Parks. In 1969, the legislature authorized a vote on a $5 million park lands acquisition bond issue. Voters approved the sale and work began on eighteen separate acquisition projects. On October 2, 1973, the Legislative Commission of the Legislative Council Bureau gave approval for State Parks to pursue the purchase of 5,000 public acres (from the BLM) and 800 private acres. The State Park Bond Sale and Federal Land and Water Conservation Fund revenues were to provide the needed funds. In January, 1974, the State of Nevada completed the purchase of the Ranch for $3.25 million (Nevada Division of State Parks, 1997).

In addition to State support and Federal Land and Water Conservation funds, two private groups contributed time and money for park development. They are: Spring Mt. Ranch Docents, contributing to research and development of historic and natural interpretive information; and the Nevada State Parks Cultural Arts Board, contributing funds for the design and development of the cultural events pavilion.

Today the park is used for visitors interested in hiking and/or picnicking. It also attracts visitors curious about previous owners of the ranch and its historic significance in the development of the West. The group use area is commonly booked on weekends throughout the entire summer. Some of the bigger events held at the ranch throughout the year include holiday celebrations on Easter and Halloween, Civil War reenactments, Spring Fest, Pioneer Day, and various events with the Boy Scouts of America.

Many of the events involve the history of the ranch. Living History Programs are held each spring and fall. The programs portray the lives of early settlers such as Old Bill Williams, Jim Wilson, and Olive Lake as they might have been. The programs include costumed role-playing, demonstrations and re-enactments of historic events.

II. REGIONAL INFLUENCES

A. DEMOGRAPHICS

1. Historic

Historically, settlers shunned the Red Rock Canyon area. Nomadic Indians made only seasonal camps in the area where water was available. Since most of the land remained in the public domain, white settlement prior to 1940 consisted of two ranches and scattered mining claims. The town of Blue Diamond and development of the Blue Diamond Mine for some time represented the most significant demographic influence on the area. The growth of the Las Vegas metropolitan boundary and increases in its population and visitors has become the major demographic influences on the park.

2. Existing/Projected

The previous Development Plan was written using 1985 population statistics, which showed Clark County's population to be 575,610. Clark County's population between April 1, 2000 and July 1, 2006 increased from 1,375,765 to 1,777,539, a change of 29%. The population of Clark County is expected to continue to grow at record rates over the next 20 years. The State of Nevada Demographer predicts Clark County population growth to increase by more than 1.5 million for a Las Vegas Metropolitan Area population of more than 3.5 million by 2030.

An increasing urban and suburban population, coupled with an increase in annual visitors to the area from outside the region, State and Country, is increasing the number of users and demand on Spring Mt. Ranch State Park.

a. Clark County Demographics

The Clark County population and demographic data used below are approximate and are for planning purposes. The future number and types of users to Spring Mt. Ranch State Park will be greatly impacted by these numbers and trends.

As of the 2000 census, approximately 1.4 million people, 512,253 households, and 339,693 families resided in the county. The population density was 67/km² (174/mi²). There were 559,799 housing units at an average density of 27/km² (71/mi²) (US Census, 2000).

The racial makeup of the county in 2005 was 54.5% Caucasian Non Hispanic, 26.1% Hispanic, 10.1% Black or African American, 1.0% Native American Indian, 6.7% Asian, 0.6% Pacific Islander, and 2.8% from two or more races (Figure 2.1 Clark County Racial Make Up).

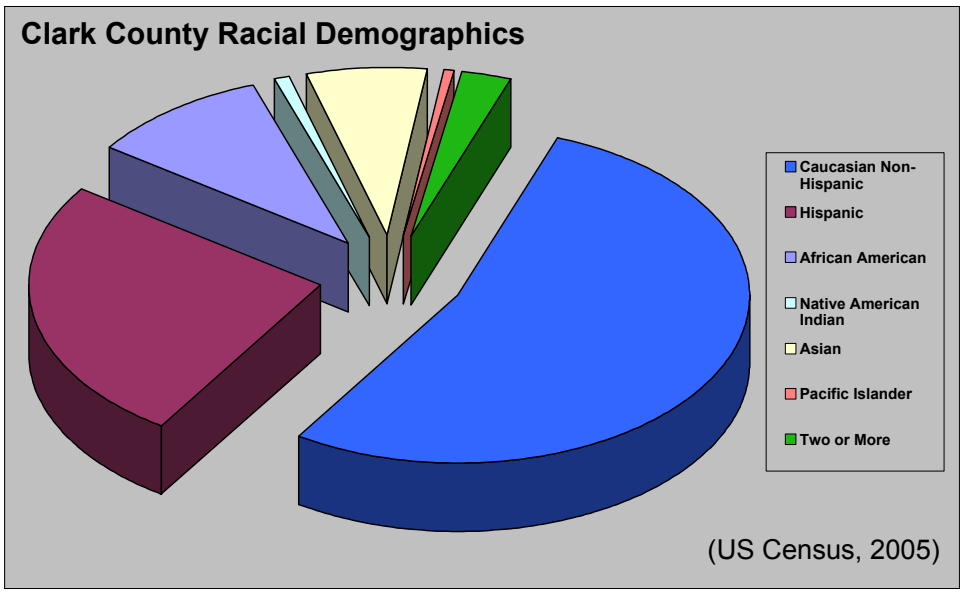


Figure 2.1 Clark County Racial Makeup
Minorities make up almost half of Clark County's population.

By 2005, there were 637,740 households of which 414,377 were family households (Figure 2.2 Clark County Household Demographics). Of the family households, 47% had children under the age of 18 living with them. There were 122,383 family households comprising of single parent households, with approximately two times as many single female parents as male parents. There were 171,314 households with individuals living alone. There were 132,561 households with one or more people 65 years of age or older. The average household size was 2.65 and the average family size was 3.25 (US Census, 2005).

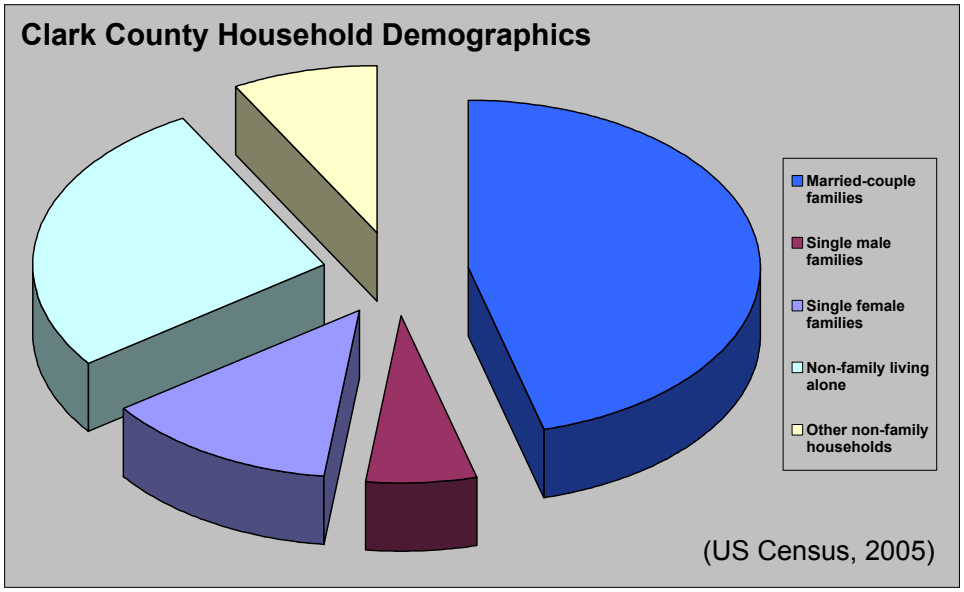


Figure 2.2 Clark County Household Demographics
There is a large family community and significant percentage of individuals living alone.

The age demographics of Clark County indicate that 26% of the population is under the age of 18, 9% from 18 to 24, 31% from 25 to 44, 23% from 45 to 64, and 11% who were 65 years of age or older (Figure 2.3 Clark County Age Demographics). The median age was 34.4 years.

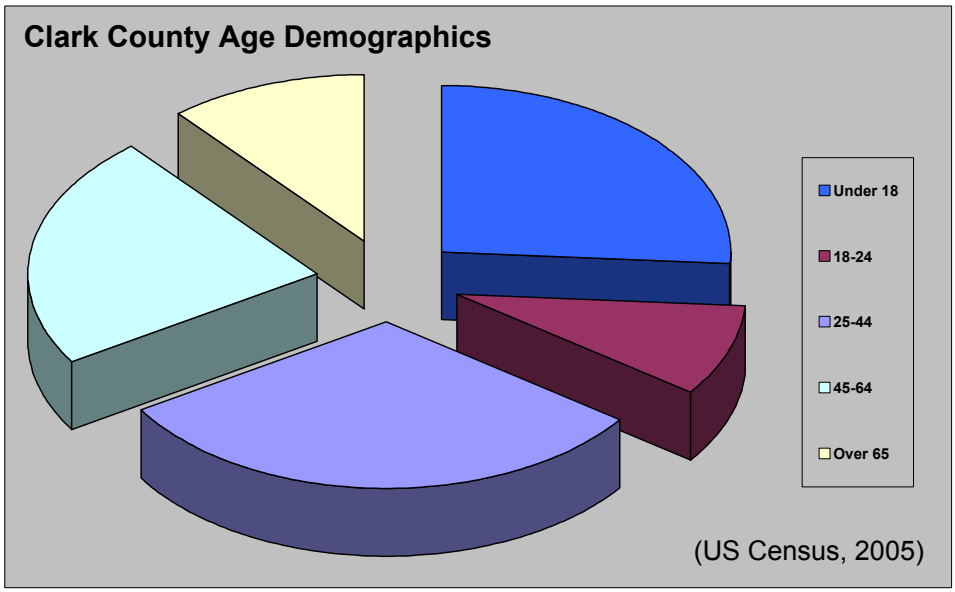


Figure 2.3 Clark County Age Demographics
There is an even distribution of age groups.

b. Las Vegas Demographics

Las Vegas is a census-designated place (CDP) located in Clark County, Nevada. The demographics of the city of Las Vegas represent urban Clark County.

Las Vegas is located at 36°10'34" North, 115°8'13" West (39.176, -115.137) (Wikipedia, 2007). According to the United States Census Bureau, the CDP has a total area of 340.0 km² (131.3 mi²). As of the census of 2000, there were 478,434 people, 176,750 households, and 117,538 families residing in the city. The population density was 1,630.3/km² (4,222.5/mi²). There were 190,724 housing units at an average density of 649.9/km² (1683.3/mi²) (US Census Bureau, 2000).

The racial makeup of Las Vegas in 2005 was very similar to that of Clark County: 52.3% White, 28.5% Hispanic, 11.1% African American, 0.6% Native American, 4.7% Asian, 0.4% Pacific Islander, 3.0% from two or more races (US Census Bureau, 2005).

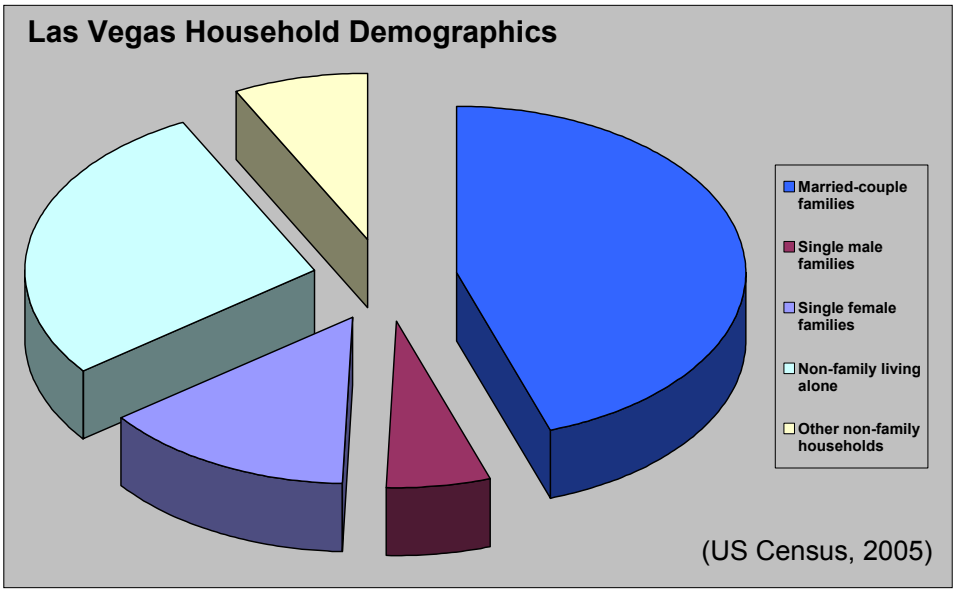


Figure 2.4 Las Vegas Household Demographics
About a third of the households in Las Vegas are non-family.

There is a slightly smaller proportion of families in the city of Las Vegas when compared to the demographics of overall Clark County. In 2005, there were 204,688 households of which 132,735 are family households (Figure 2.4 Las Vegas Household Demographics). Of the family households, 48% had children under the age of 18 living with them. Of these family households, 41,098 are single parent households with more than two times as many single female parents as male parents. There

were 56,733 households made up of individuals living alone. There were 45,667 households with one or more people 65 years of age or older. The average household size was 2.63 and the average family size was 3.26 (US Census, 2005).

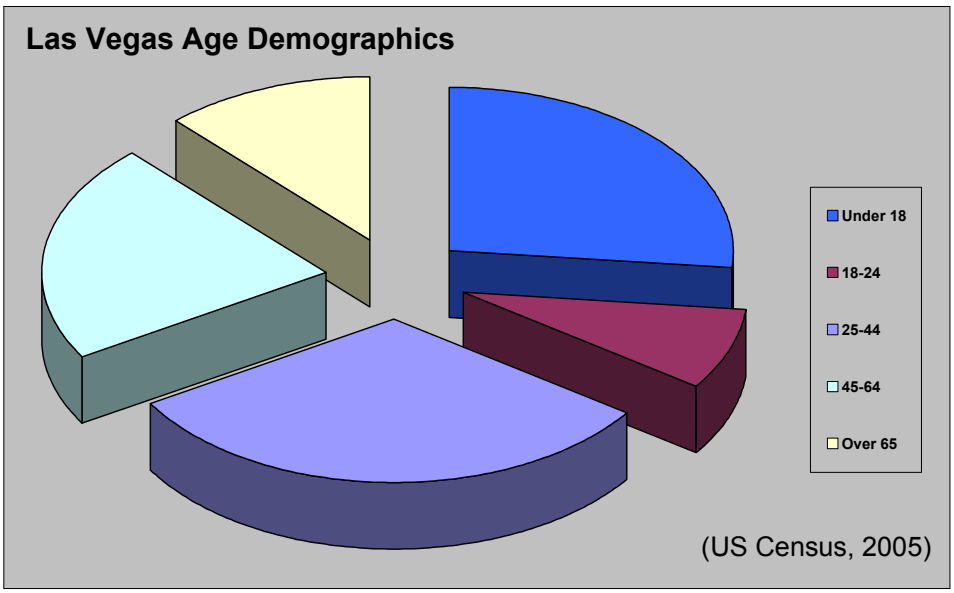


Figure 2.5 Las Vegas Age Demographics
There is an even distribution of age groups.

In Las Vegas the population was spread out with 27% under the age of 18, 8% from 18 to 24, 32% from 25 to 44, 22% from 45 to 64, and 12% who were 65 years of age or older (Figure 2.5 Las Vegas Age Demographics). Las Vegas demographics show slightly larger percentage of people under the age of 18 and over 65 than Clark County. The median age was 34.8 years.

c. City of Pahrump Demographics

The City of Pahrump lies less than 60 miles west of Spring Mt. Ranch in Nye County, Nevada. Over the ten years from 1990 to 2000 the city's population more than tripled from 7,424 to 24,631. This growth also may affect use of Spring Mt. Ranch.

B. RECREATIONAL DEMAND

1. Effect of Population Increases in Creating Demand

Rapid development on the west side of Las Vegas Valley, Blue Diamond and in Pahrump increases pressures on all recreation facilities in the region. Increasing populations raise demand for these facilities at all levels. If regional recreation providers cannot keep pace with population growth, residents may apply increasing pressure on the State system to meet their needs. Added pressure on the Red Rock Canyon National Conservation Area could overflow onto the State Park due to the different uses and facilities provided by the park. At this point, due to demand, the Nevada Division of State Parks (NDSP) is currently upgrading the visitor's center and adding and upgrading group-use facilities. The increasing proximity of Las Vegas development reduces travel time to the Park, making the park more accessible and increasing demands.

2. Affect of Socioeconomic Data on Demand

A number of data sources provide insight into the socioeconomic condition of regional residents and park visitors. This information can be used to help determine the ability of regional residents to participate in the full range of recreational activities available. The 2005 Census data for the Clark County show a slightly lower percentage of poverty level families and senior citizens than that of the rest of the United States.

The population of the area leans towards families, and therefore affordable family and group activities areas are needed. Due to this demand, Spring Mt. Ranch is already upgrading a new group picnic area with covered pavilion.

The median income for a household in the county was $44,616, and the median income for a family was $50,485. Males had a median income of $35,243 versus $27,077 for females. The per capita income for the county was $21,885 (U.S. Census Bureau, 2000).

The U.S. Census Bureau described the national poverty line for 2005 as an individual income of $10,160 or less. A total of 10.8% of the Clark County population and 7.9% of Clark County families were below the poverty line which are significantly lower than the national percentages of 12.6 and 10.8. 14.1% of those under the age of 18 and 7.3% of those 65 and older in Clark County were living below the poverty line (U.S. Census Bureau, 2000).

3. Visitation Characteristics

Between 1990 and 2005, Spring Mt. Ranch was Nevada's fourth most popular state park with an average of 213,727 visitors per year. Visitation to Spring Mt. Ranch has fluctuated greatly with as many as 255,746 visitors in 1991 and as

few as 186,622 visitors in 1998. Following the decline of visitors in 1998, visitation has leveled at approximately 210,000 (Figure 2.6 Spring Mt. Ranch Visitation Trends).

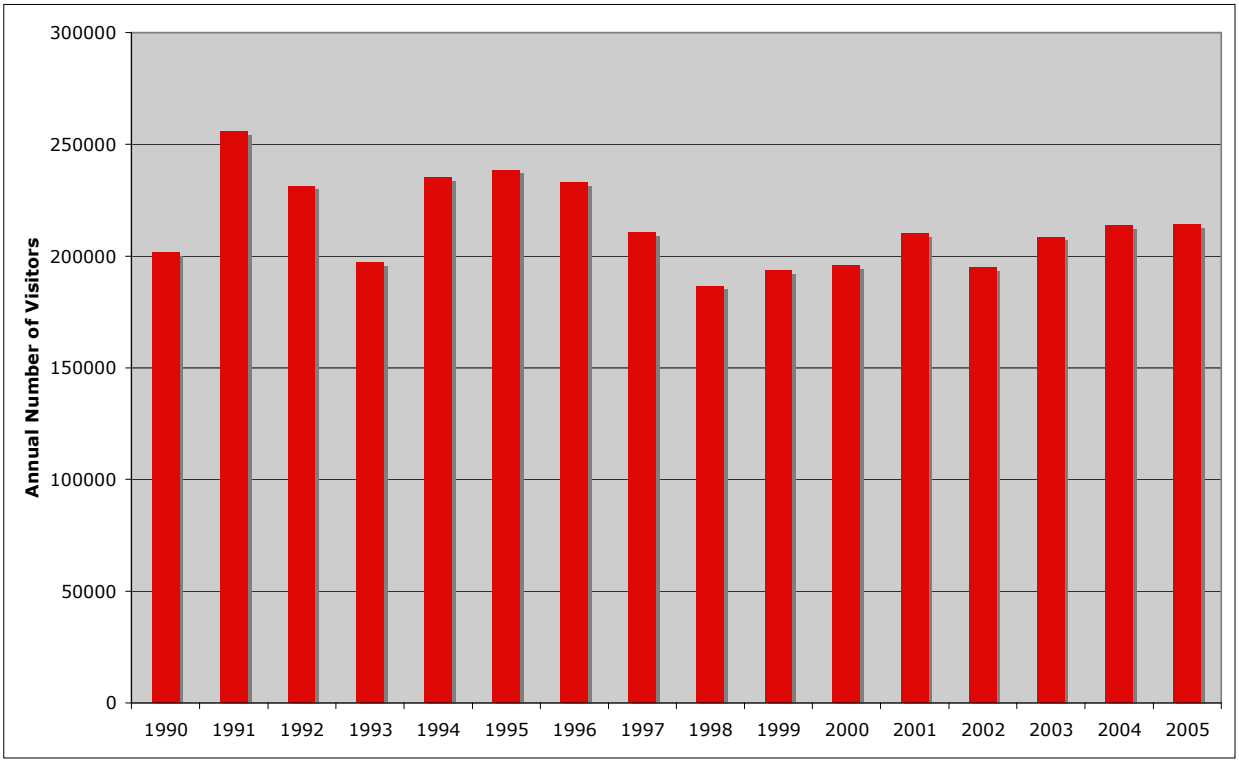


Figure 2.6 Spring Mt. Ranch Visitation Trends

In contrast, overall visitation to all Nevada State Parks has gradually increased between 1990 and 2005 with relatively smaller fluctuations. Following its peak of 3,472,248 visitors in 2000, overall visitation leveled off at approximately 3,500,000 visitors, which is larger than the mean of 3,165,657 (Figure 2.7 Nevada State Park Visitation Trends).

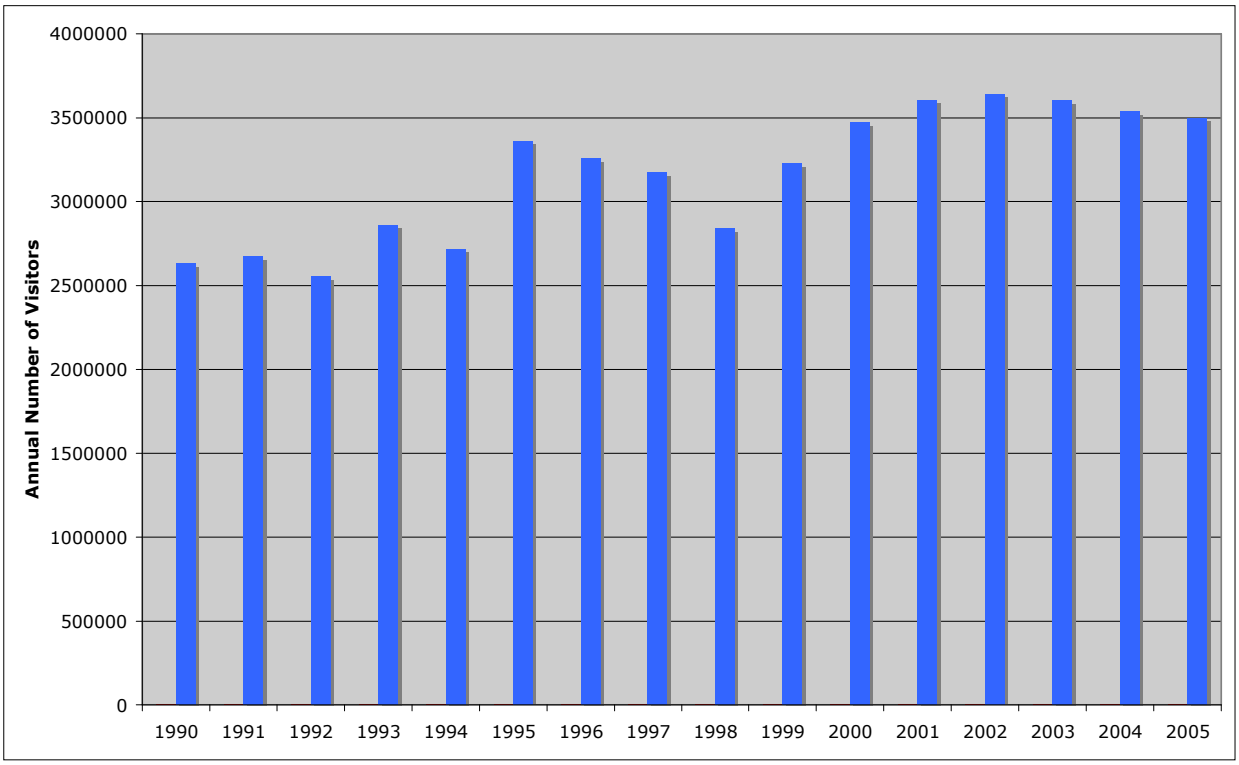


Figure 2.7 Nevada State Park Visitation Trends

The Division is currently conducting a new statewide and park specific survey. The preliminary, unpublished results from Spring Mt. Ranch visitors surveyed in 2006 - 2007 suggest that 81% of visitors come to the park as their primary destination and 10% visit the park five times or more annually. Group sizes range from a single person to groups as large as 700 people, but 51% come in parties of two or three people. These preliminary results also suggest picnicking, hiking/walking, group activities/special events, visiting historic sites, and interpretive exhibits as being popular activities specific to the park.

The 2003 Nevada Statewide Comprehensive Outdoor Recreation Plan (SCORP) estimates that eighty-four percent of Nevadans 16 years of age and older participated in at least one outdoor recreational activity in the year 2000. The plan projects annual participation days to continue to increase from 277 million days in 2000 to 316 million days in the year 2010.

4. Activity Preferences

The 2003 SCORP research on outdoor recreation needs and participation listed the following outdoor activities as being the most popular in Nevada in 2000:

Table 2.1 - Nevada's Top 10 Outdoor Activities	**2003 SCORP (%)***
Pleasure driving	44
Picnicking	37
Swimming in a pool	32
Walking without a dog	32
Wildlife viewing	31
Swimming in a lake or stream	30
Hiking	28
Walking with a dog	28
Motor-boating	27
Lake fishing	26

*The percentages are of Nevadans 16 years of age and older who participated in each specific activity in the year 2000. Respondents could pick more than one activity; therefore, the sum of the percentages is greater than 100.

According to the 2003 SCORP, the Nevada Market Region consists of Nevada, California, Oregon, Idaho, Utah, and Arizona. The plan listed the following outdoor activities as most popular in this region in 2000:

Table 2.2 - Nevada Market Region's Top 10 Outdoor Activities	**2003 SCORP (%)***
Walking for pleasure	79
Family gathering	73
Viewing/photographing natural scenery	62
Visiting nature centers, etc	57
Gardening or landscaping for pleasure	56
Picnicking	56
Sightseeing	49
Pleasure Driving	47
View/photography wildflowers, trees, etc	45
Visit a historical site	43

*The percentages are of Nevadans 16 years of age and older who participated in each specific activity in the year 2000. Respondents could pick more than one activity; therefore, the sum of the percentages is greater than 100.

The Nevada 2005 State Recreational Trail Plan Survey provides more up-to-date information on demands for trail activities. A statewide random sample of trail users was asked to select the activities that they engaged in during the twelve months preceding the survey. The most popular activities were:

Table 2.3 - Most Popular Trail Activities	**2005 Trail Plan (%)***
Walking	55
Hiking	37
OHV riding	19
Jogging/running	16
Tour/regular bike riding	16
ATV riding	10
Mountain bike riding	10
Horseback riding	6
Rafting	6
Backpacking	5
Dirt bike racing	4
Kayaking	4
Canoeing	3
Snowshoeing	3
Cross country skiing	2
Snowmobiling	2

*The percentage is of total survey respondents who indicated participation in each trail activity. Respondents could pick more than one activity; therefore, the sum of the percentages is greater than one hundred.

5. Demands for Existing Activities/Facilities

Applying Statewide and regional data to Spring Mt. Ranch we can see that users are asking for facilities that promote picnicking, family gathering, hiking, viewing and photographing nature, and visiting historical sites.

Spring Mt. Ranch visitor surveys express similar needs with demands for picnicking, pedestrian trails, and group use areas. Spring Mt. Ranch visitor surveys and public comments suggest a larger demand for historical sites, interpretive trails and programs, special event facilities, and equestrian trails.

The Park is not large enough to support equestrian trails wholly within its boundaries. The 2005 State Trails Plan survey found that those who participated

in mountain biking and equestrian activities traveled from 8-11 miles or more in one outing. Hiking and running averaged 3-5 miles. This infers a demand for access to longer sections of trail (connectivity to BLM roads and trails outside of the park) for equestrian use. Opportunity for facilities to park, load and unload for equestrians was also brought to staff's attention during public meetings.

C. RECREATIONAL SUPPLY

1. Spring Mt. Ranch

Spring Mt. Ranch provides the park visitors with the opportunity to escape the urban pace of Las Vegas and enjoy the beauties of Red Rock Canyon. Developed activities include family and group picnicking, cultural events at the outdoor amphitheater, guided historic and nature tours, wildlife viewing, and exploring the Historic buildings (Appendix 2.1 Existing Facilities). Guided Tours are given daily through the historic area showcasing a number of buildings and revealing the lifestyles of previous owners

Family Picnic and Group Use Areas

Super Summer Theater sponsors several plays, musicals, and concerts at the "Theater Under the Stars" throughout the months of June, July, and August.

Picture taken from http://starbulletin.com/2007/05/06/-travel/art2b.jpg

Lake Harriet.

Fishing and swimming are prohibited in the reservoir. Once filled with trout and bass, the lake is now one of three existing refuges for the endangered Pahrump poolfish, *Empetrichthys latos latos*. Two benches on opposite sides of the lake provide bird-viewing areas.

Special Events

Many special events are held throughout the year, sometimes relating the history of the ranch such as Pioneer Day and living history programs held each spring and fall. Other events are held taking advantage of the group use facilities and the natural beauty of the park.

Picture taken from http://parks.nv.gov/images/smr6.jpg

Trails, Access and Regional Connectivity: Walking and hiking are popular activities for people visiting Spring Mt. Ranch.

The 2005 Nevada State Trails Plan identified three (3) trail segments within the park totaling only 2.21 miles. All of the trails are open to non-motorized use (Appendix 2.2 Trails Map).

The Ash Grove Trail offers the chance to view native birds and other wildlife as well as some of the valley's oldest ash trees. It consists of a smaller handicap loop attached to a larger more rugged non-handicapped loop that heads east toward the road before cutting across an ephemeral stream and leading into the ash grove. The grove offers some shade from the sun for trail users. This trail has a few lookouts and many interpretive signs that are generally in good condition.

The Overlook Trail offers a chance to view a former owner's gravesite and investigate local plants and geology. It leads to cliffs that look down over the ranch and group use area. The trail is mainly in full sun.

The Sandstone Canyon Trail begins on the gravel road just west of Lake Harriett. The trail goes further up the canyon before looping across the stream, coming from the two springs above in the canyon, and returning back to the lake. Very little shade is provided by natural vegetation on this trail. No interpretive signs have been developed for this trail.

The trails may require some maintenance after large storms but are currently in good condition.

2. Regional Facilities

Other State Parks in the region are Valley of Fire and the Old Las Vegas/Mormon Fort. In addition to the activities mentioned above that Spring Mt. Ranch provides, Valley of Fire State Park also provides developed overnight camping and backcountry experiences.

Other public recreation providers in the region include the incorporated cities of Las Vegas, North Las Vegas, Henderson, Boulder City, Pahrump, Blue Diamond, and Clark County. Typical urban facilities provided by these groups include swimming pools, ball fields, tennis courts, playgrounds, open multi-use turf areas, golf courses, and picnicking sites.

The federal government actively manages recreation areas in the region also. These include the U.S. Fish and Wildlife Service at the Desert National Wildlife Refuge, the National Park Service at Lake Mead National Recreation Area, the United States Forest Service at Mt. Charleston, and of course, the Bureau of Land Management in the Red Rock Canyon National Conservation Area. Picnicking, boating, swimming, hiking, mountain climbing, hunting and other backcountry experiences are examples of activities available in these areas.

Private recreation suppliers in the region provide activities such as downhill skiing (at Mt. Charleston), horseback riding, golfing, softball, water amusement parks, and camping. In the Red Rock area itself, "Old Nevada" at Bonnie Springs provides recreation opportunities. These currently include an old west town with shops and a restaurant, a petting zoo, and a horseback trail riding.

D. SUPPLY/DEMAND ANALYSIS

Spring Mt. Ranch helps fill the existing demand for many outdoor activities preferred by local population and tourists particularly demand for picnicking and group use areas, walking/hiking, viewing scenery and wildlife, and cultural events. Group sites and picnicking have continued to be the top recreational activities at Spring Mt. Ranch and the region in general. Projections indicate an increase in visitors, and therefore, a larger demand for Spring Mt. Ranch facilities is possible. Events throughout the year rely on

group use and picnic areas, such as the Super Summer Theater, Spring Fest, and Civil War Reenactments. Demand for these activities will increase as the local population and tour tourism grow.

In addition, Spring Mt. Ranch helps meet the demand for historical interpretation. As described in Chapter 1, the Park is a Historic District unto itself. The historic significance is the priority in the Park and it has high regional significance as well. The continued popularity of the previous owners of the Spring Mt. Ranch have sustained the desire for people to come from all over and experience sites of the past. Therefore, this development planning process will consider expanding these activities to meet the expected increase in demand.

The SCORP also found that Nevadans demanded additional camping and fishing opportunities. Spring Mt. Ranch cannot help meet the demand for fishing because Lake Harriet houses the endangered Pahrump killifish. The Park may be able to accommodate limited camping under special use permits only, if further study reveals acceptable levels of impact to historic and natural resources.

Public comments indicated a desire for equestrian and hiking trails and trailheads within the Park that connect to those on adjacent BLM lands to meet the demand for longer trails. This will be considered during planning.

E. REGIONAL LAND USE TRENDS

1. Ownership and Land Use

Patterns and Trends - No evidence exists to indicate that the ownership patterns of the surrounding Red Rock Canyon National Conservation Area will change within the timeframe of this planning document (15 years) (Appendix 1.1 Land Ownership Map). However, current growth trends indicate increasing residential and commercial development in the areas along Blue Diamond Road and along Charleston Boulevard towards State Route 159, the main route leading to Spring Mt. Ranch.

2. Zoning

Clark County applies and enforces zoning controls in this area. All land within the study area is designated R-U, low-density single family with no special restrictions. However, other uses exist, including commercial and industrial. These uses developed prior to the time the county established zoning, thus were grandfathered into the regulations.

3. Existing Access/Site Circulation

Automobile: State Route 159 runs north and south through the Red Rock Canyon National Conservation Area and is the only route leading to Spring Mt. Ranch (Figure 1.2 Vicinity Map). State Route 160, also known as the Blue Diamond Road, intersects State Route 159 from the south. Closer to the center of Las Vegas, Charleston Boulevard becomes State Route 159 providing the main access to the BLM Visitor Center at the Redrock NCA as well as Spring Mt. Ranch.

Spring Mt. Ranch Road provides access to visitors from State Route 159 to parking just before looping back to the highway. A seasonal dirt parking lot located east of the amphitheater provides parking during Super Summer Theater and other special events. An unpaved road connects the lot to Spring Mt. Ranch Road (Appendix 2.3 Circulation Map).

Three developed pedestrian trails currently exist within Spring Mt. Ranch State Park, the Ash Grove, Overlook, and Sandstone Canyon trails, as well as memorial walk to the amphitheater and an unpaved road leading to and around Lake Harriet (Appendix 2.2 Trails Map).

4. Utilities

a. Water

Throughout the history of Spring Mt. Ranch, its owners aggressively pursued water rights associated with mountain springs wherever they could. The State acquired all accumulated water rights with the purchase of the property. These water rights are on file with the State Water Master and reside both inside and outside of the Park boundary. This issue is discussed in more detail in Chapter III.

Irrigation water for the site comes from the reservoir named Lake Harriet, located southwest above the ranch within the Park boundary (Appendix 2.4 Utilities - Irrigation Map). Lake Harriet is approximately three surface acres and fifteen feet at its deepest point. Two springs in sandstone canyon fill the reservoir at 250 gallons per minute. Water from this reservoir is then used for irrigation. A well just North of the reservoir drilled in 1988 replaces an older one and provides needed potable water (Appendix 2.5 Utilities Map).

b. Electrical Power

Electrical power is provided to the Spring Mt. Ranch area by the Nevada Power Company. Power enters the park by overhead power lines from Bonnie Springs to the south, runs through the park and terminates at the

fee booth station. Three transformers are located within the park, one south of the Ranger Station, one north of the ranch house, and one east of the pavilion in the Group Use Area (Appendix 2.5 Utilities Map).

c. Telephone Service

Embarq provides phone service to the visitor center, maintenance shop, and all residences. A public telephone is provided near the visitor center.

d. Sanitation

Septic systems provide for sewage disposal. There are 12 tanks park wide, but they are in poor condition at the ranch house, and fair to adequate condition throughout the rest of the park property.

III. THE EXISTING PARK

A. NATURAL RESOURCES

1. Physiography/Slopes

Red Rock Canyon sits at the foot of the Spring Mountains, a complex geologic feature which includes extensive thrust faults and dramatically eroded sandstone cliffs. The escarpment that provides a scenic backdrop to the ranch rises approximately 3,000 feet above the canyon floor. This escarpment runs the length of Red Rock Canyon and forms its western border. Elevations at the ranch range from approximately 4,000 feet at the base of the cliffs to 3,600 feet at the eastern edge along State Route 159.

The steep cliffs and fractured nature of the escarpment lend themselves to rock falls and slumping. Many large boulders and rubble piles in the canyons and along the escarpment indicate past activity of this type. This activity occurs today and will continue as long as loose, fractured or easily eroded rock occurs in areas of steep slopes.

Slopes in the area range widely. Vertical walls along the escarpment produce one end of the spectrum, while slopes of less than 2% are common in some of the washes. On the valley floor, the land slopes downward gradually from the base of the escarpment to State Route 159. On a site specific basis, however, landforms produced by flood paths provide greater topographic variety.

The ranch itself lies on an alluvial plane sloping downward from Sandstone Canyon to State Route 159. Slopes are generally between 0 – 7% in the majority of the park. A more dramatic change in slope occurs just east of Lake Harriet

creating a ledge above the ranch and pastures. This ledge continues north and creates the beautiful vistas on the Overlook Trail.

(Appendix 3.1 Slope Analysis Map)

2. Climate

a. Temperature

Dry air, light precipitation and large temperature ranges characterize Nevada's overall climate because the mountain systems to the west block out or greatly modify any maritime air moving inland from the ocean.

In Nevada, there are three temperature zones - the hot desert, the rain shadow and the high plateau. Spring Mt. Ranch State Park lies within the western rain shadow zone. Maximum summer temperatures average 94.3ºF and minimum winter temperatures average 31ºF (Western Regional Climate Center, 2006) (Figure 3.1 Average Temperatures).

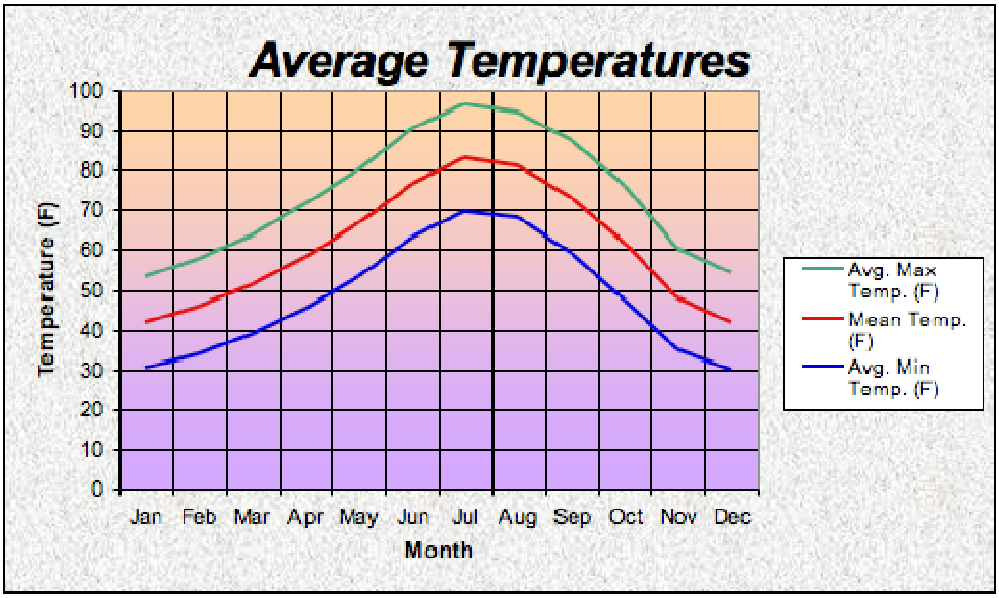


Figure 3.1 Average Temperatures
(Western Regional Climate Center, 2006)

b. Precipitation

Spring Mountain Ranch is located at the foot of the Spring Mountains and therefore receives runoff from rain and snow on the east side of the mountains. The annual amount of rainfall within nearby Red Rock Canyon

National Conservation Area is 11.66 inches (Western Regional Data Climate, 2007).

Most precipitation comes at the end of winter and during the summer. The area does receive some snow during the winter time. The annual amount of snowfall is 2.3 inches; however, this is mainly on the higher mountains surrounding Spring Mt. Ranch and not directly on the ranch itself (Figure 3.2 Average Precipitation).

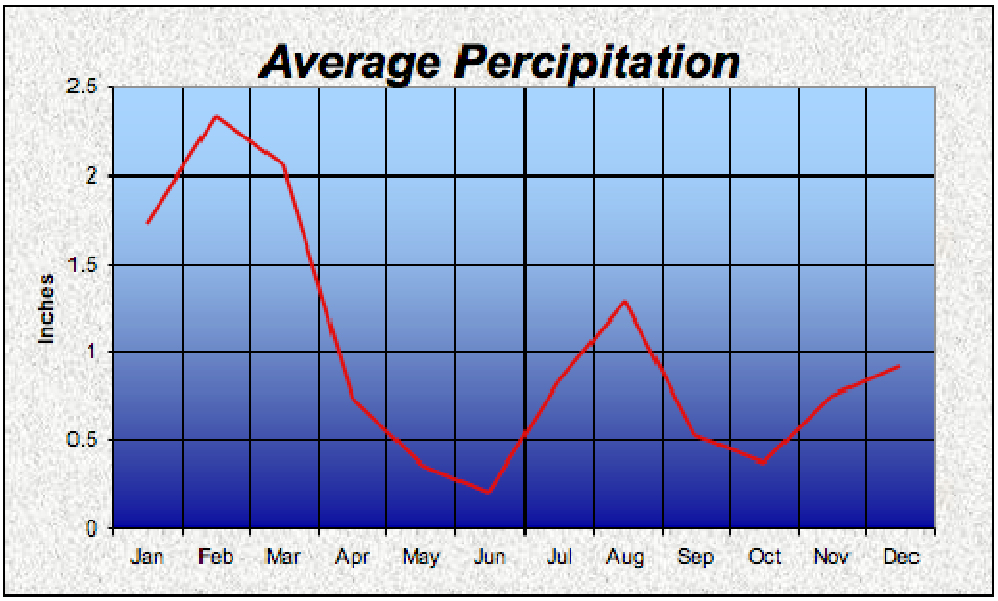


Figure 3.2 Average Precipitation
(Western Regional Climate Center)

d. Solar and Wind

The solar elevation angle is the angle between the direction of the sun and the horizon. For park development, this angle is used to design shade structures that provide relief from the hot summer sun. At Spring Mt. Ranch, the sun angle at noon on June 21 (summer solstice) is 76.9°.

Spring Mt. Ranch averages 294 days of sunshine. Even with cooler temperatures than the Las Vegas Valley, in the warm summer months the availability of shade is a very important issue regarding park use.

In Nevada, basin and range topography, combined with the prevailing storm tracks, affect the speed and direction of surface winds. At Spring Mt. Ranch the winds during the winter months average 7.4 mph from the south and southwest. During the spring and summer months the winds average around 11.6 mph from the west and southwest.

3. Geology of the Area

Natural processes working over geologic time produced the dramatic centerpiece of Red Rock Canyon, the multi-colored escarpment (BLM, 1975). The Spring Mountains contain extensive thrust faults and eroded sandstone cliffs. The Keystone Thrust, one of the major faults in the range, is exposed for a distance of more than 45 miles. Along the sandstone bluffs, the Keystone fault has been displaced to form the deep Red Rock Canyon. From this point it trends in a northeasterly direction along the base of the La Madre Mountains. Numerous smaller faults occur, especially in the Calico Hills and in areas south of Cottonwood Pass and the Pahrump Highway.

Limestones in the area formed in a warm, shallow sea; consequently some layers are rich in fossils. By contrast, the sandstones are thought to be derived from ancient sand dunes formed during a drier climate. Resistant limestones thrust above more erodible sandstones, protecting these underlying rocks from weathering. This action created the escarpment.

A combination of interlayering and leaching of minerals creates the striped or streaked appearance of the rock. Colors range through many shades of red, brown, orange, and gray with tints of lavender, buff and green. Additional form and color is provided by fissures, intrusions, and volcanic ashes. Aztec Sandstone forms the prominent buttress along the escarpment and the Calico Hills. Weathering produced exaggerated forms, such as potholes, domes, and arches.

Other geologic features in the area include natural caves and mineral deposits. Several caves exist in the limestone areas. Desert and Hidden Caves are the largest; however, the stalactites, helicites and stone draperies have suffered greatly from vandalism. In the vicinity of Spring Mt. Ranch, Blue Diamond Hill contains large reserves of gypsum which have been extracted by open-pit mining in properties adjoining Red Rock.

The valley consists of material transported from the escarpments washed out in alluvial fan formations and deposited mostly by flash floods. In general, larger particles have been deposited near the cliff face and finer particles settle further out into the valley; most material has been deposited near the escarpment.

The lower three-fourths of Spring Mt. Ranch lies on such alluvial deposits, which locally include beach and sand dune deposits. Sandstone becomes more prevalent at increasing elevations towards the Spring Mountains in Sandstone Canyon (Appendix 3.2 Geology Map).

4. Water Resources

a. Watershed/Streams

No rivers or permanent streams run within Spring Mt. Ranch or the surrounding areas. However, major washes drain the escarpment, carrying floodwaters to Las Vegas Valley and eventually to Lake Mead. Many smaller channels pose serious risk to hikers, campers and other visitors during flash floods. Several washes cross the Ranch with a major wash southwest of the developed area running directly through the Ash Grove Trail. Water from this wash and other smaller washes flow into Arizona Wash that runs parallel to State Route 159. The entrance road to the park crosses Arizona Wash. Flooding due to high precipitation during thunderstorms is common in this area and can prevent access to and from the park. According to studies by the Center for Water Resources Research, peak rates of runoff in this drainage channel can be expected to equal or exceed 3,000 cubic feet per second during storms of 75-year magnitude.

Springs and other groundwater supplies represent the major water resource within the Red Rock area. Springs are generally located along the floors of the deep transverse valleys trending east-west.

Two natural springs in Sandstone Canyon fill a reservoir known as Lake Harriet. This reservoir provides water for irrigation for the ranch, which flows by gravity from the reservoir through a below-ground pipe system. The reservoir has a capacity of about 21.5 acre-feet. Gradual siltation and cattail growth must be managed to keep the storage capacity of this facility. A well northeast of the reservoir provides the ranch with potable water. The well can sustain 60 gpm, and it most likely receives some water leaking from the reservoir.

Currently, the Southern Nevada Water Authority comes monthly to assure the quality of water in Lake Harriet. Not all spring locations are monitored as often and may not meet the same quality as the lake.

Recharge to the system occurs largely as snow melt and to a lesser extent as rainfall in the highlands to the west. Overland flow and recharge to the valley floor is probably of lesser importance. Water discharged from the springs returns to the groundwater regime via the valley floor. It is subsequently discharged as underflow, evapotranspiration by deep rooted vegetation, or direct evaporation from natural and man-made pools/reservoirs. Limited recharge, structurally unfavorable bedrock units and thin accumulations of saturated alluvium make further groundwater development in quantity unlikely. The valley fill units beneath or adjacent

to present-day washes represent the best prospects for water development. It may be possible to increase yields in the vicinity of selected springs by installing collector systems in channel alluvium in a manner similar to that at Sandstone Spring No. 1. This system presently supplies inflow to Lake Harriet.

Groundwater derived from infiltration percolates through fractures and along bedding planes to lower elevations where it may appear as springs emanating directly from bedrock. It also may appear as saturated alluvium which fills stream channels incised into the bedrock. Spring flow, then, is variable over the course of a year and responds quickly to yearly precipitation fluctuations.

(Appendix 3.3 Hydrology Map)

b. Water Rights

As stated in Chapter II, the Division owns water rights for springs spread out over a very large area. The approved use of the majority of these springs is recreation and wildlife (Appendix 3.3 Hydrology Map).

5. Soils

a. Description

Two soil units appear within the boundary of Spring Mt. Ranch (Soil Data gathered from USDA Natural Resources Conservation Service, 5/1/2007). Both have at least some limitations to facilities development.

(Appendix 3.4 Soil Map)

Map Unit: 292 – Rock Outcrop-Nupper Association

Component: Rock outcrop, metamorphic (65%)
Component: Nupper (25%)

Map Unit: 411 – Bludiamond-Diamondhil Association

Component: Bludiamond, very gravelly surface (40%)
Component: Bludiamond (25%)
Component: Diamondhil (20%)

b. Constraints

Limitations due to soil constraints have been identified by the USDA for site uses similar to those found at Spring Mt. Ranch: 1) paths and trails,

2) camp areas, 3) picnic areas, 4) small commercial buildings, 5) septic tank absorption fields, and 6) local roads/streets.

The USDA did not rate the Rock Outcrop-Nupper Association for any of these site uses because it is found in the mountains where slopes reach 30 to 75 percent. Slopes this steep preclude development.

The USDA rates the Bludiamond-Diamondhil Association "somewhat limited" for most uses (i.e., paths and trails, camp areas, picnic areas, small commercial buildings, and local roads/streets) for the following reasons: too sandy, large stones content, slow water movement, depth to cemented pan, gravel content, and shrink-swell characteristics. The USDA rates the association "very limited" for septic tank absorption fields primarily because of its shallow depth to cemented pan and slow water movement.

6. Park Ecology

a. Habitats

Spring Mt. Ranch lies within the extensive Mojave Desert. However, its plant life encompasses a much greater species variety than is found in most parts of this region. The proximity of the Spring Mountains and the abundance of available spring water help create this situation. Within the vicinity of Spring Mt. Ranch, eight general vegetation communities exist (Appendix 3.5 Vegetation Map).
They are described below.

AREA-WIDE VEGETATION

Great Basin Pinyon-Juniper Woodland: The pinyon-juniper woodland community occurs at higher elevations in the Spring Mountains. Both the *Pinus edulis* (pinyon pine) *and Juniperus communis* (common juniper) grow in association with *Arctostaphylos* (manzanita tree), *Garrya veatchi* (silk-tassel bush), *Quercus* (oak tree), and *Symphoricarpos albus* (common snowberry). *Cercocarpus montanus* (mountain mahogany) dominates south-facing ridges. This type of land cover is found near the end of the Sandstone Canyon Trail.

Intermountain Basins - Semi-Desert Shrub Steppe: The semi-desert shrub steppe community occurs at lower elevations on alluvial fans and flats. It is an open shrubland with patchy grasses. Characteristic species include *Atriplex canescens* (fourwing saltbush), *Artemisia tridentata* (sagebrush), *Chrysothamnus viscidiflorus* (rabbit brush), *Ephedra nevadensis* (Mormon Tea),

Ericameria nauseosa (rubber rabbitbrush), *Gutierrezia sarothrae* (broom snakeweed), and *Krascheninnikovia lanata* (winterfat). Disturbance may be important in maintaining the woody component. Also, the microphytic crust can be very important in some stands.

Mojave Mid-Elevation Mixed Desert Scrub: The mixed desert scrub community is a transition zone above *Larrea tridentata/Ambrosia dumosa* (creosote bush/burrobush) and below the lower montane woodlands. The vegetation in this ecological system can be quite variable. Other characteristic species include *Coleogyne ramosissima* (black brush), *Ephedra nevadensis* (Mormon tea), *Grayia spinosa* (spiny hopsage), *Menodora* spinescens (spiny menodora), *Nolina spp.* (beargrass), *Opuntia acanthocarpa* (cholla), *Salazaria mexicana* (Mexican bladdersage), *Viguiera parishii* (Parish's goldeneye), *Yucca brevifolia* (Joshua tree), and *Yucca schidigera* (Mojave yucca).

North American Arid West Emergent Marsh: The arid west emergent wash community occurs in and around the irrigation reservoir. Marshes have distinctive soils that are typically mineral, but also accumulate organic material. The dominant vegetation in this area is *Typha*, also known as cattail.

North American Warm Desert Bedrock Cliff and Outcrop: The warm desert bedrock cliff and outcrop community occurs at higher elevations up Sandstone Canyon along the foothills of the Spring Mountains. This ecological system is usually barren or sparsely vegetated. Species present are diverse and may include *Bursera microphylla* (Elephant Tree), *Fouquieria splendens* (Ocotillo), *Nolina bigelovii* (Beargrass), *Opuntia bigelovii* (Teddybear Cholla) and other desert species, especially succulents. Lichens are predominant lifeforms in some areas.

North American Warm Desert Lower Montane Riparian Woodland and Shrubland: The ranch house, pastures, historic district, and Ash Grove Trail lie within this ecological system. The vegetation is a mix of riparian woodlands and shrublands. Dominant trees include *Populus fremontii* (Cottonwood tree) and *Fraxinus velutina* (Velvet Ash) as well as fruit trees planted by previous owners of the ranch. Shrub dominants include *Salix exigua* (narrowleaf willow) and *Baccharis alicifolia* (mules fat). Vegetation is dependent on annual or periodic flooding.

Sonora-Mojave Creosotebush-White Bursage Desert Scrub: This ecological system usually occurs on lower bajadas and is

scattered throughout the park. Desert scrub is characterized by a sparse to moderately dense layer of shrubs. *Larrea tridentata* (creosote bush) and *Ambrosia dumosa* (burrobush) are typically dominants, but many different shrubs, dwarf-shrubs, and cacti may co-dominate or form typically sparse understories. Associated species include *Atriplex canescens* (fourwing saltbush), *Ephedra nevadensis* (Mormon tea), and *Opuntia basilaris* (beavertail pricklypear). The herbaceous layer is typically sparse, but may be seasonally abundant with ephemerals.

Sonora-Mojave Mixed Salt Desert Scrub: This system is located just outside of the park's boundary and typically occurs in saline basins around playas. Vegetation is usually composed of one or more saltbush species, such as *Atriplex canescens* (fourwing saltbush) and/or *Atriplex polycarpa* (cattle saltbush) along with other halophytic, or salt tolerant, species. Halophytic grasses are also present at various densities.

b. State and Federally Listed Species

Plants

Within the general plant communities, several rare, threatened, or sensitive species exist (Nevada Natural Heritage, 2007). Table 3.1 identifies and describes these species. In addition, Nevada state law protects all cacti and yucca from private collection. Any individual must obtain a permit from the Nevada Division of Forestry to remove a member of these groups from their native condition.

Table 3.1 – At Risk Taxa Recorded in or near Spring Mt. Ranch

COMMON NAME	SCIENTIFIC NAME
Rough angelica	*Angelica scabrida*
Las Vegas Bearpoppy	*Arctomecon californica*
St. George blue-eyed grass	*Sisyrinchium radicatum*
Spring Mountain milkvetch	*Astragalus remotus*

(Compiled by the Nevada Natural Heritage Program for the Nevada Division of State Parks, May 2007).

Rough angelica *(Angelica scabrida)*

A member of the carrot family (*Apiaceae*), the Nevada Natural Heritage Program states in its 2001 fact sheet that the impacts and major threats to the plant include recreational use. This plant is endemic to the Spring Mountains with a recorded elevation range of 4040 to 9350 feet (1231-2850 meters).

Rough angelica (*Angelica scabrida*)
Nachlinger (1994), Nevada Natural Heritage Program slide collection (1986-present) and files.

Rough angelica's habitat is moist rocky calcareous drainages, canyon bottoms, or seepy or north-facing slopes over carbonate or sandstone rock in the interior chaparral, mountain brush, and montane coniferous forest zones. This plant is aquatic or wetland-dependent. It flowers in the summer; therefore the most frequent survey months are June through August. It is a robust perennial herb up to 15 dm high, with globular clusters of white flowers blooming July to September. This species is a nectar source for the endemic Carole silverspot butterfly (*Speyeria zerene carolae*). (Nevada Natural Heritage Program Rare Plant Fact Sheet.)

Las Vegas bearpoppy (*Arctomecon californica*)

The bearpoppy resides in several areas within the park. It is a Nevada BLM Special Status Species and is also protected under Nevada state law (NRS 527.260-.300) as critically endangered (Natural Heritage, 2007). The silvery-gray leaves grow in a clump at the base of the plant. The large, yellow, poppy flowers grow atop

long stems (Nevada Natural Heritage Program Rare Plant Fact Sheet).

Bearpoppy (birdandhike.com)

Las Vegas bearpoppy -Typical habitats are on gypsum soils (birdandhike.com)

St. George blue-eyed grass (*Sisyrinchium radicatum)*

St George blue-eyed grass (*Sisyrinchium radicatum*) E. P. Bicknell, (Bull. Torrey Bot. Club. 28: 576, 1901). A herbaceous perennial, this plant flowers late spring through mid-summer and prefers moist, sometimes alkaline meadows, stream banks, and borders of springs. Its elevation ranges from 600 to 300 meters. St. George blue-eyed grass is apparently restricted to the St. George–Las Vegas region, and is to be expected in the adjacent northwest corner of Arizona (http://www.efloras.org – Flora of North America).

St. George blue-eyed grass
(http://plants.usda.gov/gallery/standard/sisyr_001_svp.jpg)

Spring Mountain milkvetch (*Astragalus remotus*)

A member of the legume family (*Fabaceae)*, this plant is a perennial herb, which bears buff-colored lilac-tinged flowers from April to early June. Its habitat includes rocky, gravelly, and/or sandy calcareous soils derived from carbonate or sandstone, in

washes and drainages, or on hillsides or rocky ledges, with the zonal desert shrub or desert wash communities.

Spring Mountain milkvetch *(Astragalus remotus)* (http://calphotos.berkeley.edu)

Known impacts and major threats to the plant and habitat throughout its range include livestock and wild horse grazing, heavy recreational use of the mountains, and frequent fires in the area. The range of the Spring Mountain milkvetch includes Clark County, Nevada where it is endemic to the southeastern slopes of the Spring Mountains. It is found at elevations ranging from 3400 to 7050 feet (1036 to 2149 meters; Nevada Natural Heritage Program Rare Plant Fact Sheet).

Wildlife

Habitats that support several rare, threatened, or sensitive animal species exist within the park. Several species are known to reside in the park, such as the Pahrump killifish which lives in the reservoir, and to frequent the park, traveling freely inside and out of its boundaries. Table 3.2 identifies these species (Nevada Natural Heritage, 2007).

Table 3.2 - Rare, Threatened, or Sensitive Animal Species within the Spring Mt. Ranch State Park	
COMMON NAME	SCIENTIFIC NAME
Pahrump killifish	*Empetrichthys latos latos*
Desert tortoise	*Gopherus agassizii*
Chuckwalla	*Sauromalus ater*
Banded Gila monster	*Heloderma suspectum cinctum*

(Nevada Natural Heritage, 2007).

Pahrump killifish (*Empetrichthys latos latos*)

This endangered species was transplanted from Pahrump in 1983 to the Spring Mountain Ranch main reservoir by the Nevada Department of Wildlife (NDOW) when its last native habitat became threatened. After several years, healthy reproduction rates demonstrate that this program has been successful. Siltation of the reservoir, which can threaten the killifish's habitat, is managed cooperatively between NDOW, the Park and the U.S. Fish and Wildlife Service (USFWS).

Pahrump killifish
(http://www.fws.gov/nevada/protected_species/fish/species/images/pahrump_poolfish.gif)

A Habitat Conservation Plan completed in May1995 describes how State Parks, NDOW and USFWS work together cooperatively in management of the fish and its habitat in the park. The partnership has been a great success, fish numbers have increased and habitat is in very good condition.

Desert tortoise (*Gopherus agassizii)*

The USFWS listed the desert tortoise as a threatened species on April 2, 1990. Populations have declined recently in many areas due to two main human attributable reasons: the direct loss of individual tortoises and habitat degradation/fragmentation. Individual tortoises are lost due to poaching, collection for pets, vehicular impact, livestock trampling, disease, and raven encroachment. Habitat degradation and fragmentation occur mainly through urban sprawl and livestock grazing practices. In addition to recent encroachment by ravens due to the presence of garbage dumps, desert tortoises also face the threat of a deadly upper respiratory disease in the Western Mojave area.

Desert tortoise (http://hoglezoo.org/animal.photos/desert.tortoise3.jpg)

Desert tortoise habitat is found on flats, alluvial fans, bajadas (shallow slopes that lie at the base of rocky hills, where materials accumulate from the weathering of the rocks), and rocky terrain. Historically, flat terrain has lent itself to human survey on foot, skewing population estimates towards this gentler terrain. But evidence exists that desert tortoises also frequent rocky slopes, perhaps for protection from the desert heat. Soil friability, or its tendency to break apart, is another indicator of tortoise habitat.

Desert tortoises need soils they are capable of digging into for burrows.

Plant species also play a major role in both defining desert tortoise habitat and their diet. Creosote bush, burrobush, Mojave yucca, and blackbrush generally distinguish desert tortoise habitat and are present within the park. At higher altitudes, Joshua trees and galleta grass (*Pleuraphis rigida*) are common indicators of tortoise habitat.

Desert tortoises generally emerge from their burrows in mid-March to feed on ephemeral plants. During a roughly six week period fresh green grass and spring wildflowers are their primary nutritional source. Dry stems of grass and cactus pads provide sustenance in drier times. Introduced plant species have greatly encroached upon native plant species in the desert tortoise's natural range, degrading the existing natural ecosystem. Desert tortoises have, however, adapted to eating non-native species.

Desert tortoises have delayed maturity (14 to 20 years) and long life spans. Their reproduction / generation cycle is 25 years, with individuals having a life span well over 50 years. However, the desert tortoises' reproductive potential is low, laying relatively few eggs (3 to 14) in each clutch, and having a mortality rate for juveniles approaching 99%. Slow growth (~2.5 cm / year) and soft / flexible shells make them particularly vulnerable to predators at this stage of life.

Chuckwalla *(Sauromalus ater)*

The name chuckwalla is derived from the Shoshone word "tcaxxwal" or "caxwal," the form used by the Cahuilla Indians of southeastern California and originally written in Spanish as "chacahuala."

The stout-bodied chuckwalla is the second largest lizard in the United States, next in size only to the Gila monster. A male individual can measure up to 18 inches in total length, while the female is somewhat smaller.

Young Chuckwalla (www.reptilesofaz.com)

The coloration of these lizards varies geographically. It also varies between juveniles and adults, in addition to males and females. In adult males, the head, shoulder, and pelvic regions are darker, while the mid-body is light beige or tan and occasionally speckled with brown flecks. The tail is off-white. Adult females are brownish in color with a scattering of dark brown and red spots. Young chuckwallas have four or five broad bands across the body, and three or four on the tail. These bands are usually lost in adulthood. Uniformly small scales cover the body, with larger scales protecting the ear openings.

The chuckwalla occurs throughout the deserts of southern California, southern Nevada, southwestern Utah, western Arizona, Sonora, and Baja California. Its distribution closely mirrors the combined Mojave and Sonoran Deserts. The chuckwalla's preferred habitat is boulder-covered slopes, at elevations up to 4500 feet, although they are more common at lower elevations.

In the wild, chuckwallas are shy, and, if approached, will hide in the cracks and crevices of nearby boulders. If the threat persists, they can wedge themselves tightly in the crevice by inflating their lungs which causes their body to press against the rock faces. This makes extraction nearly impossible for a predator. Chuckwallas are strictly herbivores in the wild. Mating occurs between April and July, with a clutch of as many as 16 eggs laid between June and August. The eggs hatch in the late warm season.

The chuckwalla is currently a Federal Special Concern species. In desert communities with active development, the preferred habitat of the chuckwalla is under attack. In areas without disturbance, chuckwallas appear healthy and stable. (http://www.wildherps.com/species/S.ater.html)

Banded Gila monster *(Heloderma suspectum cinctum)*

The Gila monster (pronounced Hee'-la) is one of only two species of venomous lizards. Its cousin the Mexican Beaded Lizard is the other. With its generally sluggish behavior and benign disposition, it nonetheless must be treated with caution. It can bite quickly and hold on tenaciously. A Gila monster bite, while not considered lethal, is very painful and should be considered a medical emergency. This is the only venomous lizard native to the United States and is fully protected from all interference. (http://www.californiaherps.com/lizards/pages/h.s.cinctum.html.)

Two subspecies of Gila monster are recognized: the southern subspecies, the Reticulated Gila monster (*Heloderma suspectum suspectum*) and the northern subspecies, the Banded Gila monster (*Heloderma suspectum cinctum*). The Spring Mt. Ranch lies within the latter species' habitat and range.

Young Banded Gila Monster (www.reptilesofaz.com)

Rather than injecting venom through hollow fangs like venomous snakes, Gila monsters have enlarged, grooved teeth in their lower jaw. When they bite, their powerful jaws chew the venom in through capillary action along the grooves in these teeth. Gila monster venom is about as toxic as that of a western diamondback

rattlesnake. However, a relatively small amount of venom in introduced in a Gila bite (http://www.drseward.com/geninfo.htm).

The lizard is 9 to 14 inches long (22.8 to 35.5 cm.). It is the largest native lizard in California and the United States, with a stout body, large head, thick limbs, and a short fat tail. The color is orange or pink with four irregular dark bands or saddles across the back with little mottling between them. In the northern subspecies, the light markings generally form an unbroken band across the back. The tail is striped with five dark bands. The sides and snout of the head are black. There are loose folds of skin on the neck and a gular fold. The dorsal surfaces of the skin are covered with hard round bead-like scales. The ventral scales are flat and squarish. The tongue is dark and forked like that of a snake.

Gila monster tongue (www.californiaherps.com)

Terrestrial, but occasionally seen climbing brush, the lizard is slow moving and not very defensive unless harassed. Active day or night, Gila monsters probably are diurnal after emergence at the start of the day and becoming nocturnal as temperatures increase. Often seen at dusk or after dark following summer rains, gilas spend most of their lives underground, taking shelter in mammal burrows, under rocks, in crevices, packrat nests, thickets, and other natural cavities. They may be active on the surface for a total of only three or four weeks per year, much of it probably in April and May.

Gila monsters eat small mammals, reptiles and their eggs, insects, and bird eggs and nestlings, especially those of ground-nesters such as quail and doves. A Gila monster can probably survive on only three or four meals per year, storing extra fat in its tail for later use.

Mating occurs in spring and early summer. Males fight each other for access to females. Females lay eggs usually every other year from July to August. Hatchlings have been observed in the spring, suggesting that the eggs over winter after incubating for 8 to 10 months.

Gila monsters range from the far southwest corner of Utah through extreme southern Nevada into extreme eastern Riverside and San Bernardino Counties in California, south through Arizona into extreme southwestern New Mexico and south into Sonora and possibly Nayarit, Mexico. The lizards prefer rocky areas in desert scrub and semi-desert grassland, and are found in lower mountain slopes, rocky bajadas, canyon bottoms, and arroyos. (http://www.californiaherps.com/lizards/pages/h.s.cinctum.html.)

c. Other at Risk Taxa

Other at Risk Taxa recorded near Spring Mt. Ranch State Park were compiled by the Nevada Natural Heritage Program for the Nevada Division of State Parks on May 7, 2007.

Several bird species found in the Red Rock area have special status. The State of Nevada classifies all species of the orders Falconiformes and Strigiformes as “protected species” (interview: NDOW, 2007; Natural Heritage, May 2007). They include the Golden eagle, Prairie falcon, American kestrel, Cooper’s hawk, Red-tailed hawk, Sharp-shinned hawk, Great horned owl, Long-eared owl, Screech owl, and Turkey vulture

Human disturbance contributes to the numerous problems faced by these birds today. Poaching, egg collecting, harassment (especially during incubation), climbing and hiking below active aeries (cliff nests), habitat destruction, and developments which drive away important prey species all threaten the survival and propagation of these species. It is illegal to trap, possess, sell, purchase, transport, or destroy any of these birds, their nests or eggs.

The State also protects Desert Bighorn Sheep and wild burros.

Desert Bighorn Sheep**,** Nevada’s State Animal, constitute the best known native mammal in the Red Rock area. Due to conservation efforts, the rapid decline of bighorn populations has slowed.

Desert Bighorn Sheep (Cheryl Surface, NDSP 2007)

In addition to Desert Bighorn Sheep, visitors enjoy wild burros. These animals often linger along State Route 159, accepting food and attracting attention from passing motorists. The Wild Free-Roaming Horses and Burros Act of 1971 placed all unclaimed and unbranded horses and burros and their progeny present on national resource lands under the sole jurisdiction of the Secretary of the Interior. It is a federal offense to capture, kill or harass these animals.

Burros on the North Pasture

Burros have a high reproductive rate and are threatened only by the scarce mountain lion and being hit by vehicles. Thus their populations are on the increase in the Red Rock area. Burros utilize the same forage as bighorn sheep, mule deer, quail, and other wildlife species. During the spring, fall and winter, burro bands are scattered and they make use of the snow melt and

potholes for water. But during the summer, burros concentrate around permanent water sources like springs. Effects of a large, concentrated burro population on the environment might include eliminating sensitive forage by eating, uprooting and trampling plants; polluting water with urine and feces; and usurping all the water and driving other wildlife from the areas near springs. Some of the burros have been known to be "cantankerous" to the point of being a hazard to recreationists and some adult males have exhibited aggressive protectiveness when approached.

Wild burros graze throughout the ranch. This disturbs the undergrowth and discourages a natural plant community. Over time, an increase in disturbance could threaten this area. Fencing is being put in strategic areas to protect sensitive areas.

d. Introduced, Nuisance and Noxious Plants

A number of species have been introduced at Spring Mountain Ranch and are maintained under cultivation. These include such plants as alfalfa (*Medicago sativa*) in the pastures, rose (*Rosa sp*.), almond and apricot (*Prunus spp*.), Russian olive (*Olea sp*.), apple (*Malvus sp*.), and others.

The park is in the process of developing a weed abatement plan for nuisance and invasive plants (Table 3.3 Nuisance and Noxious Plants within Spring Mt. Ranch State Park), and will have a regional weed abatement team implementing it. Methods similar to those used at Big Bend State Recreation Area for tamarisk treatment will be used at Spring Mt. Ranch.

Table 3.3 – Nuisance and Noxious Plants within the Spring Mt. Ranch State Park

COMMON NAME	SCIENTIFIC NAME
Foxtail	*Bromus rubens*
Cheat grass	*Bromus tectorum*
Bermuda grass	*Cynedon dactylon*
Alfalfa	*Medicago sativa*
Plantain	*Plantago major*
Russian thistle	*Salsola kali*
Salt cedar (Tamarisk)	*Tamarix pentandra or ramossima*
Dandelion	*Taraxacum officinale*
Puncture vine	*Tribulus terrostris*

(Nevada Natural Heritage, 2007)

7. Perceptual

a. Scenic Attributes

Long before other site features became well known, visitors from all parts of the country noted the spectacular scenic quality of the Red Rock area. The multi-colored escarpment dramatically rises 3,000 feet above the valley floor and dominates the area. Steep walled canyons climb from the desert into the upland forests along the ridge top.

Views of the escarpment form the major impression experienced by visitor to the area. In the 1976 master plan for Red Rock Canyon (Royston, Hanamoto, Beck and Abey, 1976), the consultants described the experience this way:

> "Approaching via Charleston Boulevard, as do an estimated 75% of the visitors, there is an increasing awareness of the escarpment. It is visible from Las Vegas as a shape against the horizon. As one approaches, the shape becomes more clear and the red and yellow hues of the sandstone become apparent. As the road approaches Calico Basin, the hills to the left and right direct one's view toward the valley, and then, with a dramatic turn, the full grandeur of the escarpment is revealed. Continuing, the visitor enters the valley with enclosures to the east (Blue Diamond Hills), west (escarpment and Spring Mountains), and to the north (Calico Hills and La Madre Mountains). A feeling of the vastness of the valley floor is accompanied by a sense of being surrounded by and drawn to the massive shapes of the colorful stone enclosures. Turning south, the view is long with a natural terminus at the rise in the landscape known as Cottonwood Pass. The viewer experiences a variety of levels of enclosure from low hills to high rock outcroppings, the escarpment and Mounts Potosi and Charleston in the distance."

Spring Mt. Ranch State Park exhibits a pastoral atmosphere highlighted by the historic ranch buildings, pastures, and wooded groves. The Overlook Trail offers panoramic views of the ranch, valley and surrounding mountains.

b. Sounds, Smells and Sources

Surrounded by BLM land and at a distance from State Route 159, the sounds and smells found at Spring Mt. Ranch are usually generated within the ranch with the exception of the sound of an airplane flying overhead.

At the inflow of Lake Harriet, the smell of mint leaves accompanies the sound of flowing water and the sounds of wildlife. Further up Sandstone Canyon along the trail, the location becomes more remote with few sounds other than wind.

Lake Harriet

c. Spatial Patterns

The park is centered on the original ranch house. A large stage and group use areas sit atop a grass lawn to the northeast. A historic district and row of staff housing lie to the west. Further west and uphill lies Lake Harriet reservoir and the Sandstone Canyon Trail.

B. CULTURAL RESOURCES

1. Prehistoric

Past archaeological inventories covered portions of the northern end of Red Rock Canyon (BLM, 1975). This includes Brownstone Canyon, Sandstone Quarry, Lost Creek, Willow Springs, Calico Springs and Ice Box Canyon.

Surface surveys have been conducted over some of the remainder of the Red Rock Canyon National Conservation Area.

Willow Springs and Brownstone Canyon constitute the most significant archaeological values identified in the northern portion of Red Rock Canyon. In these areas, surveys identified significant numbers of rock shelters, roasting pits, petroglyphs and pictographs; probably representing long-term prehistoric use. Most have been heavily vandalized.

Pot hunting and vandalism are serious problems at many sites in the Red Rock area, most experiencing moderate to high levels of damage. The Willow Springs, Brownstone Canyon and Sandstone Quarry sites have sustained much of the vandalism within the Conservation Area.

2. Historic

Intensive research by Park staff and volunteers over the years produced a comprehensive understanding of the historical resources at Spring Mountain Ranch. Much of this information is presented in the Red Rock Docent Manual, a training guide for park volunteers. The following list summarizes information from this source by describing development stages at the Ranch.

a. Early Ranch Developments (prior to 1876)

Little is known of the Ranch prior to settlement by the Wilson family. However, locals named the spot the "Williams Ranch" after Bill Williams, though his connection to the property seems weak. This spot did offer the largest springs in the area and close proximity to major trail routes. This would have attracted many travelers and at some point, someone stayed long enough to construct the one-room cut sandstone cabin and the blacksmith shop.

b. Wilson Family: Wilson Ranch (1876-1929)

Though structures were present when Jim Wilson moved to the ranch, this family first settled the area. They developed structures and gardens necessary to support an isolated ranch of the period. Though they eventually fell on hard times, Jim's adopted sons continued to live and work on the property for various owners until their deaths. Both sons and two grandsons are buried on the ranch. Improvements made during these years included: renovation of the sandstone cabin and blacksmith shop, construction of a bunkhouse, earthen dam to produce the old reservoir, a storage shed, a wagon shed, and an outhouse. Garden elements from this period still found at the ranch include grape vines and an apple tree near the current Park Supervisor's house.

c. Willard George: Sandstone Ranch (1929-1948)

For the most part, the Sandstone Ranch was not the George's main residence. Willard George ran a lucrative furrier business in Los Angeles, though he made substantial improvements to the ranch during his ownership. With the help of the Wilson brothers, he ran a cattle operation. To support this venture, he filed for water rights on many springs within the cattle's range. Many site improvements from this period are present today: construction of a new residence (later torn down and replaced by a guest house), the foreman's house, stone shed, chinchillas house, and a shop, renovation of the old reservoir, and enlargement of the orchard (near the present day visitor center; some trees remain).

d. Chester Lauk: Bar Nothing Ranch (1948-1955)

The Lauck family primarily used the ranch as a retreat from their life in Los Angeles. At first, Chet Lauck ran cattle on the property, though this may not have been a profitable venture. He lost water rights on some springs after he got out of the cattle business. During his ownership, several major site improvements occurred. They included: a new reservoir (the size and elevation of this reservoir allowed it to irrigate more area), a new residence (this structure is currently the park visitor center and plays the central role in the park interpretive program), a water-powered generating system (named Boulder Dam Jr.) that replaced oil lamps, a boys camp (used by the Lauck boys as well as others but later destroyed by fire), and the beginnings of a modern shop.

e. Vera Krupp: Spring Mountain Ranch (1955-1967)

Vera Krupp was perhaps the most flamboyant person to own and live at the Ranch. She bred cattle and increased the water rights on regional springs associated with the Ranch. She made many modifications to the ranch house and other structures. They included: renovation of the interior of the ranch house; addition of a secret passageway, bedroom, and swimming pool, a guest house (built on the site of the Willard George house, now a ranger residence), a shed, stable, an electric gate, and dog kennel. Public power replaced the water generating system for electricity.

f. Howard Hughes: Spring Mountain Ranch (1967-1972)

Howard Hughes purchased Spring Mountain Ranch during the same period he was buying a great deal of Las Vegas real estate. Hughes never lived at the ranch; the property was used by Hughes Tool employees as a retreat. The corporation continued to run cattle, yet in no other way was the property operated as a working ranch. Property improvements during this period were limited to interior remodeling

(including carpet and wall finishes), and a helicopter clearing between the stable and kennel.

g. Fletcher Jones and William Murphy (1972-1974)

Jones and Murphy, both car salesmen and developers, purchased the property for real estate speculation. When public pressure forced the cancellation of their development plans, they began looking for a buyer. No site improvements were made during this period.

h. Nevada State Parks: Spring Mt. Ranch State Park (1974 – Present)

Improvements made since the State acquired the ranch include construction of recreational facilities (family picnic sites, one group picnic facility, and two comfort stations), conversion of the ranch house a visitor center, preservation of historic ranch structures, construction of a performing arts pavilion, and rehabilitation of three original ranch structures into ranger residences. Maintained trails within the managed area include the Ash Grove Trail, Sandstone Canyon Trail, and the Overlook Trail (Appendix 2.2 Trails Map).

C. SITE ANALYSIS MAP/SUMMARY

The Composite Site Analysis determines the areas most developable. This analysis is based on the following criteria: slopes, soil types, the 100-year flood plain, and proximity to the historic core of the ranch (Appendix 3.6 Composite Site Analysis Map).

a. Development Limitations

Areas with severe development limitations met one or more of the following criteria: a slope greater than 15%, Rock Outcrop-Nupper Association soil type, or a location within the 100-year flood plain (Table 3.4 Development Limitation Criteria for the Composite Site Analysis). These severely limited areas are found high within Sandstone Canyon or alongside washes. Areas with moderate development limitations have a slope between 8 and 14%, a Bludiamond-Diamondhil Association soil type, and locations outside of the 100-year flood plain or within the historic core.

b. Development Opportunities

Areas with slight development limitations can be considered development opportunities. These areas are defined by slopes less than 7%, a Bludiamond-Diamondhil Association soil type, and locations outside the 100-year flood plain and historic core.

Table 3.4 Development Limitation Criteria for the Composite Site Analysis

Level of Limitation for Development	Soils	Slope	100-year Flood Plain	Historic Core
Not Limited	Blue Diamond-Diamondhil Association	0-7 %	Lies outside flood plain	Lies outside Historic Core
Somewhat Limited	Blue Diamond-Diamondhil Association	8-15 %	Lies outside flood plain	Lies outside Historic Core
Very Limited	Rock Outcrop-Nupper Association	>15 %	Lies within flood plain	Lies within Historic Core

D. CURRENT CONDITION OF THE PARK, 2007

1. Historical/Cultural Resources

A historic setting reminiscent of the turn of the century exists in the preserved old ranch site dating from the late 1800's through the mid 20th century. The old Sandstone cabin from the Williams and Wilson era sits complete with a blacksmith shop and other remnants of the bygone era.

The Spring Mt. Ranch Visitor Center is located in the main ranch house. Interior displays describe features of the house and various owners, as well as provide limited information concerning the area's natural resources.

Spring Mountain Ranch docents staff this facility. Because of the limited availability of these volunteers, the Visitor Center is open to the public for limited hours on weekends and holidays.

2. Picnicking

Spring Mt. Ranch State Park provides both family and group picnicking opportunities. Over thirty family picnic sites sit in the Oak Grove. These sites have a table and grill, and access to an open play field and comfort station. The group picnic area serves groups as large as 300 people and is available by reservation. It offers a group shelter with tables and large grill area, parking, open play field and comfort station. This facility shares the irrigated field and comfort station with the special events pavilion. This spatial relationship does not allow both facilities to be used at the same time, creating use conflicts.

3. Maintenance Shop/Park Office

A fully developed maintenance shop includes mechanical, electrical and woodworking equipment. This structure utilizes the ranch shop building first built during the George era.

The park office is located in the Sandstone house, now the visitor center. Park staff work at their desks in rooms over the garage that once housed maids. A separate entrance in the back allows staff to enter and exit without entering the main visitor area.

4. Ranger Residences

Four park staff members and their families live at the Park today. All live in original ranch structures, rehabilitated to accommodate this use. The Senior Park Maintenance Specialist and Law Enforcement Specialist live in single family residences. A duplex houses the Park Supervisor and a Park Ranger.

5. Roads/Circulation

State Routes 159 and 160 provide paved highway access from Las Vegas to the Park entrance. At the Ranch, the service access near the shop and residences is paved throughout all public areas. All other roads and parking areas are maintained with a gravel surface. Unpaved vehicular access exists within maintenance and residential areas as well as into Sandstone Canyon trail (Appendix 2.3 Circulation Map).

Maintained trails within the managed area include the Ash Grove Trail, Sandstone Canyon Trail, and the Overlook Trail.

6. Utilities

Most utilities described in Chapter II adequately serve the Ranch. Some notable exceptions exist. One involves the irrigation reservoir. Over time, the storage capacity of the reservoir has diminished, due primarily to siltation and cattail growth. When this condition begins to reduce irrigation efficiency, steps are taken to renovate the system.

7. Cultural Events Pavilion & Amphitheater

This facility includes the pavilion, lighting and concession booth, a turf area for seating, and a gravel parking lot. Programs provide an alternative to traditional Las Vegas entertainment, and are particularly aimed at a family audience. During times of peak use in the summer, the comfort station cannot handle the large number of visitors and temporary port-a-potties must be brought in.

8. Camping

Spring Mountain Ranch State Park is a day use facility only; however, overnight camping is allowed by special permit.

IV. DEVELOPMENT PLAN

A. PLAN CONCEPT

Spring Mountain Ranch State Park provides an important escape from the pace of city life for regional residents. It also helps showcase the nationally prominent and environmentally sensitive Red Rock Canyon. The plan concept for this park grew out of recognition of these important roles. The concept is presented below to guide plan development and implementation phases.

Spring Mountain Ranch State Park represents the State's contribution in preserving the natural and historic features of the Red Rock Canyon Lands. Visitors are encouraged to participate in activities that strengthen their understanding and enjoyment of this unique place. Recreation development should occur in places and in such a manner so as to protect the needs of the area's wildlife and fragile plant communities.

In addition, this park's historic resources can present to the public the story of Southern Nevada's human settlement. This story includes nomadic Indian reliance on the spring environments, trail uses such as the Old Spanish Trail, ranch and farm development, and the attraction of the gaming industry to the country's (particularly Hollywood's) social elite.

B. PROCESS

1. Public Participation

The First public meeting was held on July 25, 2007. The 1988 Plan Goals and Issues were presented, as well as those brought up through surveys, and staff and partner communications prior to the first public meeting. Maps, pictures, site inventory information, current demographics and trends, site analysis information and user survey results were also presented at this workshop. The public was asked to provide input on issues, goals and objectives. They were also asked to put forth opportunities and ideas that the staff could use in development of alternatives. The summary of public comments can be found in Appendix 4.4.

Based on information gathered from the public meetings, three alternatives were developed (Appendices 4.1 – 4.3 Alternative Maps). These alternatives are described in Table 4.1 and 4.2 below. These alternatives were then presented for public comment at a second public meeting on November 8, 2007 and a third public meeting on January 16, 2008. The summary of public comments on the three alternatives is also located in Appendix 4.4. The recommended alternative was finalized in January of 2008 and is described below.

2. Alternatives

This section presents summaries of three alternatives developed in response to public comments.

Table 4.1 Actions Proposed for Inclusion in All Alternatives
Maintain day-use only policies (except special-use overnight permittees)
Rehabilitate existing Family Picnic Area facility & improve accessibility
Upgrade water system
Add new gates and fencing to protect historical resources
Add new interpretive signs at historic buildings, Lake Harriet, and at the end of the Sandstone Canyon Trail
Add trailhead signage in accordance with UTAP for all trails
Create designs sympathetic to the "American Ranch Style" and with the park's historical colors where possible.
Examine ways to incorporate green technologies in new facilities
Allow only low impact uses
Continue weed abatement especially on tamarisk
Continue to work cooperatively with NDOW & USFWS to manage killifish habitat and with BLM to manage burros

Table 4.2 Recommendations Specific to Each Alternative

ALTERNATIVE 1	ALTERNATIVE 2A	ALTERNATIVE 2B
Replace Slash Pile with Equestrian Trailhead, restrooms, equestrian trailer parking, & hitching post	Return Slash Pile to natural state	Replace Slash Pile with Visitor Center to include parking, interpretive exhibits, A/V room, park offices, restrooms, NSPCA sales area, etc.
Close Cowboy Trail	Convert Cowboy Trail to Equestrian Trailhead with trail(s), restrooms, equestrian trailer parking, & hitching posts	Convert Cowboy Trail to Equestrian Trailhead with trail(s), restrooms, equestrian trailer parking, & hitching posts
Keep Ranch House as Visitor Center	Keep Ranch House as Visitor Center; maintain to reflect all owners	Restore Ranch House to Vera Krupp Era
	Open the Ranch House for self-guided and docent-guided tours	Open the Ranch House for docent-guided tours (only)
Interpret all timeframes and owners at the Ranch House	Interpret all timeframes and owners at the Ranch House	Interpret Vera Krupp ownership (only)
Preserve/maintain historic buildings in current state	Restore the Kennel, Springhouse, Private Stable, & Cowboy House	Restore the Kennel, Springhouse, Private Stable, & Cowboy House
Add second Group Use Area: 150 person capacity with 50 parking spaces, grassed play area, gravel parking lot with dust abatement, and new restrooms	Add second Group Use Area: 320 person capacity with 110 parking spaces, grassed play area, gravel parking lot with dust abatement, and new restrooms	Add second Group Use Area: 320 person capacity with 110 parking spaces, grassed play area, gravel parking lot with dust abatement, and new restrooms
Leave existing parking as is, east of the North Pasture	Expand paved parking area east of the North Pasture	Expand paved parking area east of the North Pasture
No livestock	Docents assume financial and administrative responsibility for maintaining livestock for interpretive purposes	Docents assume financial and administrative responsibility for maintaining livestock for interpretive purposes
No orchard	Add orchard along perimeter & portions of the pastures	Add orchard along perimeter & portions of the pastures
No change to restrooms	Expand restroom at amphitheater	Expand restroom at amphitheater
Rehabilitate (replant) pool garden behind the Ranch House	Develop interpretive desert garden of native plants behind Ranch House	Develop interpretive desert garden of native plants behind Ranch House
Abate dust on existing gravel amphitheater-access road	Abate dust on existing gravel amphitheater-access road	Pave (hard surface) existing gravel amphitheater-access road and new group use/amphitheater overflow parking area

C. PROPOSED PLAN

1. Plan Summary

The Recommended Spring Mountain Ranch State Park Development Plan (Map, Appendix 4.5) proposes activities that provide the visitor a closer look at the natural and historical resources of this park. Increased hiking, enhanced picnicking and ADA access, and interpretive opportunities accomplish this. This plan also provides for larger local and regional educational and interpretive events.

It is important to note that in the previous plan (1988) there were lands administered by the BLM that were managed by the Division of State Parks. These lands are no longer under NV Division of State Parks management. These areas are now a part of the Red Rock National Conservation Area and managed by the BLM.

2. Management Areas

For organizational purpose only, this plan divides the park into several management areas. These include:

a) General Management Policies
b) Operational/residential area (including the three pastures)
c) Park core (including the visitor center and other historic structures)
d) Day use areas; family picnic area and the trails
e) The cultural events pavilion (including both group picnic facilities).

a) General Management Policies

This is a year-round park in which day-use only policies will be maintained (exceptions for special-use overnight permittees). Only low impact uses will be allowed.

All facility and sign designs will be created sympathetic to the "American Ranch Style" and with the park's historic colors where possible, and examine ways to incorporate green technologies in new facilities.

The Park will continue weed abatement especially on tamarisk. The Park will also continue to work cooperatively with NDOW & USFWS to manage killifish habitat and with BLM to manage burros and other species as needed.

There are no acquisition goals or objectives for the park in this plan.

b) Operational/Residential Area and Pastures

Several operational proposals in this plan aim at increasing staff and resource efficiency. The park offices will continue to be located in its current location at the entrance to the reservoir trail. This location allows greater monitoring of such plan proposals as increased access to the historic structures and to area trails. The road to the housing and park maintenance building will continue to be closed to the public.

Staff management of the cultural events pavilion area should continue to be reduced. Facility users should continue to assume a greater role in the day-to-day management of special events to free staff time for other visitor responsibilities.

The plan includes continued upgrade and maintenance of the water system, and automatic irrigation system to better use water resources and reduce staff time devoted to moving and setting pipes.

In addition to these, this plan proposes fencing and further screening the staff residential area. This would increase security and privacy for the staff and their families. It also recommends upgrading of the contact station to better serve the public.

Docents: An orchard may be added along perimeter and portions of the pastures with a management plan in place and maintenance by the docents agreed upon. Docents would also assume financial and administrative responsibility for maintaining livestock for interpretive purposes according to a park livestock plan.

c) Park Core and Historic Buildings

Visitor Center: The plan continues the role of providing a visitors center and historic ranch house combination. This center functions as a historical museum and provides environmental education. The center will continue to reflect multiple owners and timeframes. The Ranch House will be open for both self-guided and docent-guided tours.

Other exhibits focusing on the environmental resources of the Ranch will also be developed and placed on the back patio at the ranch house including an interpretive desert garden of native plants. These exterior exhibits will be available to visitors even when the visitor center is closed. These exhibits will provide trailhead information for the educational trails at the park.

Historic Structures: (See the Historic Structures map Appendix 4.5). This plan includes additional gates and fencing to protect historic resources. It also includes restoring the Kennel, Springhouse, Private Stable, & Cowboy House. This includes structural stabilization if necessary, and furnishing the buildings with period furniture and tools. Interior access will be available on guided tours. The expanded trail system would allow other visitors close to the structures and provide detailed interpretive information. Detailed direction for each historical building can be found in the Resource Management plan.

d) Day Use Areas: Picnicking and Trails

Family Picnic Area: Limited picnic expansion opportunities are provided. The existing family picnic area will be redesigned and improved to better accommodate ADA requirements. Development here will include picnic tables, grills and shade structures or landscaping. The restroom is ADA accessible and should not need replacement or expansion during the next 15 years (life of this plan).

Trails Interpretation: All trails will be signed in using the Universal Trails Assessment Process (UTAP). New interpretive signs will be placed at historic buildings, Lake Harriet, and the end of Sandstone Canyon Trail. Public education will be an important part of all signage. All will be interpretive in nature and designed as educational opportunities. Details on the interpretive program can be found in the Interpretive Plan for the park and is located at the park office.

Trails Management: The four main trails are the Sandstone Canyon trail, Ash Grove, Ash Grove extension and the Overlook trail. The Ash Grove extension trail bridge will be installed to allow for better access across the wash. All trails will be redesigned and reconstructed to be more sustainable.

New trails will include the reservoir trail and the equestrian trailhead connector trail. The road around the reservoir will be open as a trail to the public and killifish environmental education will be the theme of interpretive efforts.

Connectivity with the public lands around the park will be provide for by replacing the slash pile northwest of the fee booth with an Equestrian Trailhead; restrooms, equestrian trailer parking, & hitching post. The Cowboy trailhead and trail will be closed. The new trail will be built in partnership with the BLM to connect this trailhead and the park with the “future” escarpment trail and other trails on the BLM managed National Recreation Area.

Concern about a possible increase in vandalism accompanying an increase in public access prompts discussions of a variety of trail management strategies including trail closures during and after flood events, during bighorn sheep migration or extreme fire hazard conditions. An increase in interpretive resources and public education will also occur.

e) Cultural Events Pavilion/Group Picnic Area

Cultural Events Pavilion: This plan proposes the continued planting designed to screen the pavilion and the parking lot from view from the road. The restrooms at the pavilion are in need of expansion. The leach field will need inspection and work as necessary to maintain function.

The existing gravel amphitheater access road will be paved (hard surface).

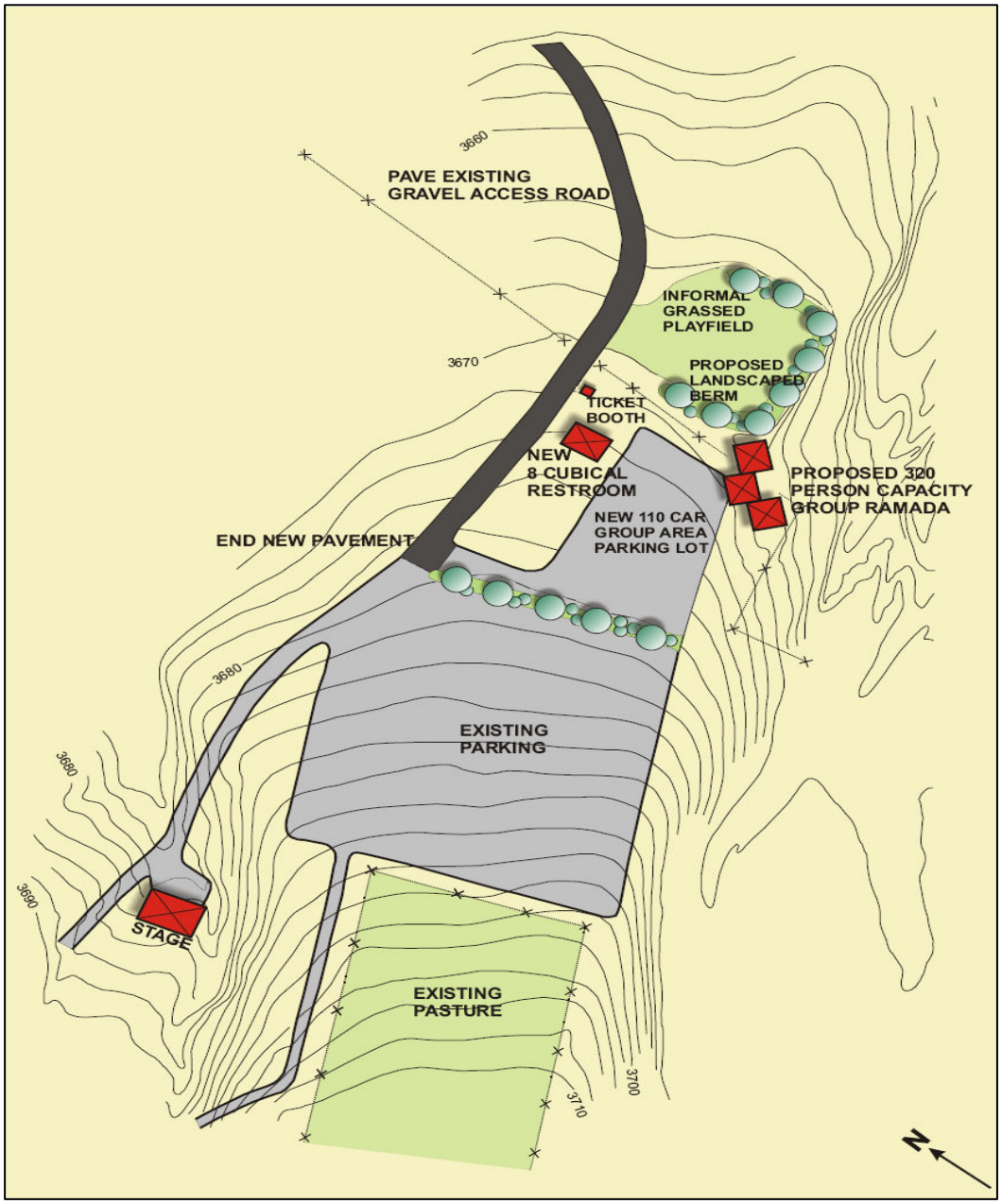
In addition, this plan carries forward from the 1988 plan, the following criteria to help determine the appropriateness of program expansion: 1) The programs should not detract from the inherent tranquil experience of the park; 2) The programs should not decrease the availability of the existing group use area; 3) Program expansion should not in any way restrict visitor access to the rest of the park or any of its facilities; and 4) Any program expansion should not increase staff management commitment to this facility.

Group Picnic Areas: The pavilion will continue to accommodate small groups of 150 – 160 persons. Landscape screening will be maintained to minimize the visual impact between facilities and parking areas.

Add a second Group Use Area: this facility can be designed for up to 320 person capacity with 110 parking spaces, grassed play area, gravel parking lot with dust abatement, and new restrooms.

43

Figure 4.1 Conceptual Drawing of New Group Use Area.



f) Planting/Landscape Themes

Carried forward from the 1988 plan: As park development progresses additional planting will follow an overall planting concept. This concept recognizes the existing visual integrity of the Valley and focuses on maintaining and improving it. Vegetation masses should hide any structures from both long distance and short-range views. The designers should choose native plants for nearly all landscape uses. This is particularly important for this park for a number of reasons. First, this area is nationally recognized for its scenic beauty and unique environment. Second, the area exists as a delicate balance of water, plants and animals. Introduced species may disrupt this balance and cannot add to the visitor's enjoyment or understanding of the natural environment

Much existing development in the valley is located in areas of heavy vegetation, hiding all but the tops of buildings from view. As development progresses, this technique should be used wherever possible. Where structures must locate outside of existing tree masses, an aggressive planting program should be implemented several years before facility construction.

The planting scheme recognizes two primary landscape needs. The first, around visitor use areas, must meet certain criteria. In addition to being drought tolerant with native-compatible color and form, plants in this category must stand up to a certain amount of visitor abuse and must grow moderate to fast. Native species should be used wherever possible, yet other species may be introduced to meet these criteria.

In Spring Mountain Ranch State Park, five different areas merit additional landscaping. The proposed second group use area, the cultural events pavilion and parking lot all require visual buffering from the highway and park entrance road. Maintenance of privacy screening is needed surrounding the park staff residences.

The Orchard should be planted using research on fruit trees originally planted in the area during those time frames and may include Heritage or Heirloom varieties as necessary to ensure survival and proper plant selection for the site.

The second landscape sub-theme includes all restoration areas such as the Ash Grove. In these areas, all species are native. The restoration plan must plan for naturally sustainable communities, in natural soil conditions, with little or no additional irrigation. They should be irrigated only during the establishment period. This plan recommends continued study by botanists in this area prior to implementing environmental restoration work.

D. IMPLEMENTATION

1. Development Phases

Many improvements may be completed outside the direction of these phases if funding opportunities exist.

Phasing recommendations were based on: importance to the plan concept, meeting recreational needs, necessity for user safety or park maintenance, and relative ease of completing the task.

PHASE I:

- Continue to implement interpretive plan for the Ranch.
- Continue water system improvements.
- Install fencing and further screening for the staff residential area.
- Upgrade the contact station to better serve the public.
- Develop orchard plan and Docent agreement for management and care.
- Develop livestock management plan and Docent agreement.
- Close and rehabilitate disturbed ground at the Cowboy trailhead.
- Remove the slash pile northwest of the fee booth.
- Continue planting designed to screen the pavilion and the parking lot from view from the road.

PHASE II:

- Upgrade existing trails to sustainable design.
- Design and develop interpretive native desert garden in pool area at Ranch House.
- Develop new interpretive signage for historic buildings, Lake Harriet, and end of Sandstone Canyon Trail.

- Complete UTAP assessment of trails and add UTAP signage.
- The Ash Grove extension trail bridge will be installed to allow for better access across the wash.
- Redesign and improve family campground ADA Access.
- Restore historic structures: Kennel, Springhouse, Private Stable, & Cowboy House.
- Develop exterior guided and self-guided tours: interpretive trail to include the Kennel, Springhouse, Private Stable and Cowboy House.

PHASE III:

- Expand restrooms at the pavilion and consider condition of leach field functionality.
- Pave (hard surface) the existing gravel amphitheater access road.
- Develop second group use facility: designed for up to 320 person capacity with 110 parking spaces, grassed play area, gravel parking lot with dust abatement, and new restrooms.
- Develop an Equestrian Trailhead (at old slash pile site) in cooperation with BLM. (New trail will be built in partnership with the BLM to connect this trailhead and the park with the “future” escarpment trail and other trails on the adjacent National Conservation Area).